

# Assignment3.R

Orachai

2021-03-02

```
setwd("/Users/Orachai/Documents/BE/4TH YEAR 2ND SEMESTER/EE435")  
cat(rep("\n",50)) #clear R Console
```

```
#install.packages("dplyr")  
library(quantmod)
```

```
## Loading required package: xts
```

```
## Loading required package: zoo
```

```
##
```

```
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
```

```
##
```

```
##      as.Date, as.Date.numeric
```

```
## Loading required package: TTR
```

```
## Registered S3 method overwritten by 'quantmod':
```

```
##   method      from
```

```
##   as.zoo.data.frame zoo
```

```
library(fBasics)
```

```
## Loading required package: timeDate
```

```
## Loading required package: timeSeries
```

```
##
```

```
## Attaching package: 'timeSeries'
```

```
## The following object is masked from 'package:zoo':
```

```
##
```

```
##      time<-
```

```
##
```

```
## Attaching package: 'fBasics'
```

```

## The following object is masked from 'package:TTR':
##
##      volatility

library(sn)

## Loading required package: stats4

##
## Attaching package: 'sn'

## The following object is masked from 'package:fBasics':
##
##      vech

## The following object is masked from 'package:stats':
##
##      sd

library(PerformanceAnalytics)

##
## Attaching package: 'PerformanceAnalytics'

## The following objects are masked from 'package:timeDate':
##
##      kurtosis, skewness

## The following object is masked from 'package:graphics':
##
##      legend

library(car)

## Loading required package: carData

##
## Attaching package: 'car'

## The following object is masked from 'package:fBasics':
##
##      densityPlot

library(tseries)
library(forecast)
library(Matrix)
da<-read.table("q-gdpmc1.txt", skip=1)
gdp=da[,4]

par("mar")

```

```
## [1] 5.1 4.1 4.1 2.1
```

```
par(mar=c(1,1,1,1))
par(mfcol=c(2,2))
plot(gdp,type='l')
log_gdp=log(gdp)
gdpgrowth=diff(log(gdp))
gdp_x = c(1:263)/12+1947
plot(gdp_x,gdpgrowth,xlab='year',ylab='gdpgrowth',type='l')
normalTest(log_gdp,method="jb")
```

```
##
## Title:
## Jarque - Bera Normalality Test
##
## Test Results:
## STATISTIC:
## X-squared: 16.7313
## P VALUE:
## Asymptotic p Value: 0.0002327
##
## Description:
## Tue Mar 02 07:28:45 2021 by user: Orachai
```

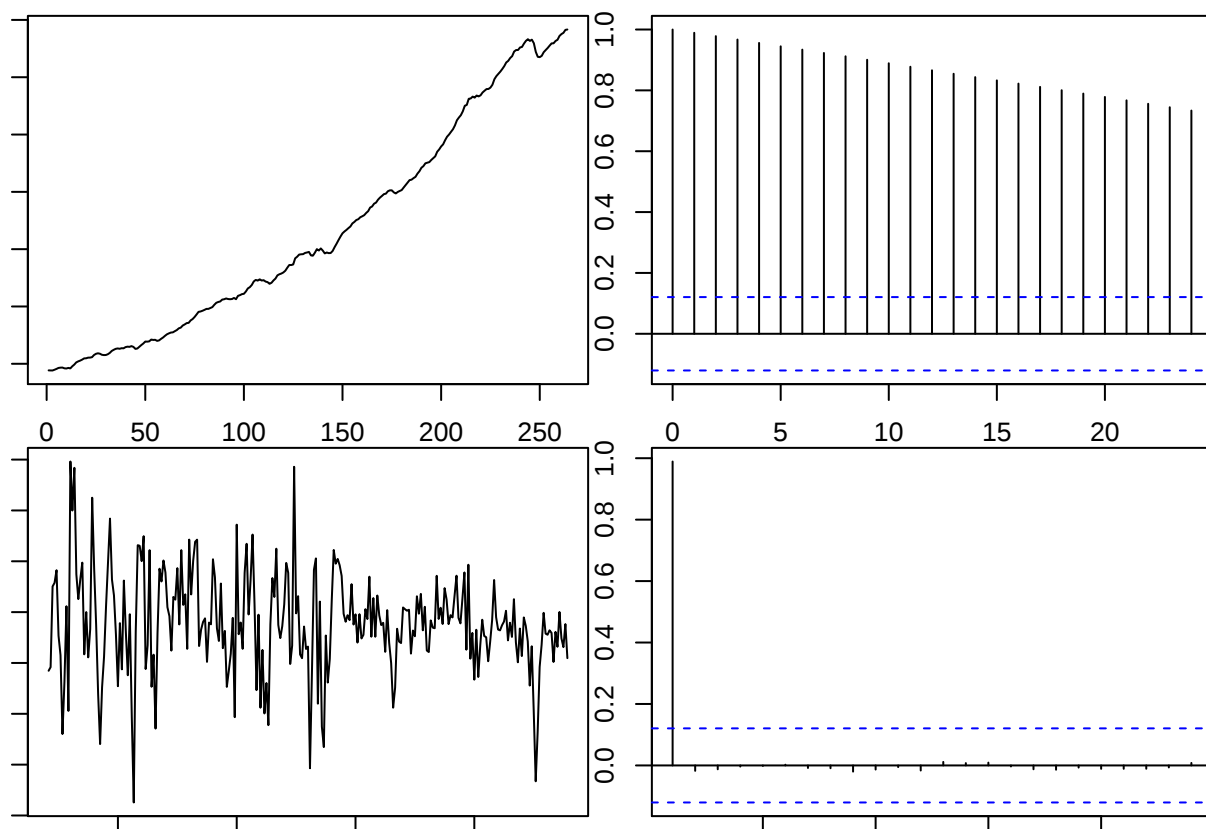
```
t.test(log_gdp)
```

```
##
## One Sample t-test
##
## data: log_gdp
## t = 408.85, df = 263, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
## 15.45172 15.60127
## sample estimates:
## mean of x
## 15.5265
```

```
#we reject the null hypothesis: mean of US GDR growth rate is not equal to 0
m1=acf(log_gdp)
names(m1)
```

```
## [1] "acf" "type" "n.used" "lag" "series" "snames"
```

```
m2=pacf(log_gdp)
```



```
names(m2)
```

```
## [1] "acf"      "type"     "n.used"   "lag"      "series"   "snames"
```

```
m2$acf
```

```
## , , 1
##
##          [,1]
## [1,]  0.989229023
## [2,] -0.017650547
## [3,] -0.012623577
## [4,] -0.003734832
## [5,] -0.001727777
## [6,]  0.002373508
## [7,] -0.008326339
## [8,] -0.009146290
## [9,] -0.020203180
## [10,] -0.013366724
## [11,] -0.005374945
## [12,] -0.016628106
## [13,]  0.011433623
## [14,]  0.007584065
## [15,]  0.009127070
## [16,] -0.003437610
```

```
## [17,] -0.012520978
## [18,] -0.014005695
## [19,] -0.007026663
## [20,] -0.011144420
## [21,] -0.011018262
## [22,] -0.010857061
## [23,] -0.006630617
## [24,]  0.008130542
```

```
Box.test(log_gdp,lag=12,type='Ljung')
```

```
##
## Box-Ljung test
##
## data: log_gdp
## X-squared = 2821.1, df = 12, p-value < 2.2e-16
```

```
#data: log_gdp
#X-squared = 2821.1, df = 12, p-value <
#2.2e-16, which means that we reject the null hypothesis that p1=p2=...=0 with 95%
#confidence interval.
```

```
#2
da2=read.table("d-amzn3dx.txt", skip=1)
da2
```

| ##    |          | V1        | V2        | V3        | V4        | V5 |
|-------|----------|-----------|-----------|-----------|-----------|----|
| ## 1  | 20080102 | 0.038968  | -0.011799 | -0.006595 | -0.014438 |    |
| ## 2  | 20080103 | -0.010805 | -0.000951 | -0.004544 | 0.000000  |    |
| ## 3  | 20080104 | -0.067430 | -0.025649 | -0.022417 | -0.024552 |    |
| ## 4  | 20080107 | 0.000338  | 0.000202  | -0.001854 | 0.003223  |    |
| ## 5  | 20080108 | -0.010583 | -0.017021 | -0.014033 | -0.018352 |    |
| ## 6  | 20080109 | -0.030269 | 0.010008  | -0.000434 | 0.013624  |    |
| ## 7  | 20080110 | -0.011265 | 0.008399  | 0.009699  | 0.007948  |    |
| ## 8  | 20080111 | -0.037740 | -0.013906 | -0.011295 | -0.013595 |    |
| ## 9  | 20080114 | 0.022077  | 0.010461  | 0.007797  | 0.010871  |    |
| ## 10 | 20080115 | -0.031737 | -0.024732 | -0.018427 | -0.024925 |    |
| ## 11 | 20080116 | 0.001371  | -0.006669 | -0.000088 | -0.005612 |    |
| ## 12 | 20080117 | -0.002862 | -0.027708 | -0.021596 | -0.029093 |    |
| ## 13 | 20080118 | -0.004493 | -0.005568 | -0.007317 | -0.006045 |    |
| ## 14 | 20080122 | -0.016048 | -0.009420 | -0.010336 | -0.011085 |    |
| ## 15 | 20080123 | -0.057467 | 0.019785  | 0.018216  | 0.021442  |    |
| ## 16 | 20080124 | 0.050020  | 0.012549  | 0.011073  | 0.010063  |    |
| ## 17 | 20080125 | -0.000901 | -0.012996 | -0.001540 | -0.015872 |    |
| ## 18 | 20080128 | -0.022938 | 0.017169  | 0.013508  | 0.017556  |    |
| ## 19 | 20080129 | -0.024664 | 0.006383  | 0.007683  | 0.006152  |    |
| ## 20 | 20080130 | 0.003516  | -0.005362 | -0.002545 | -0.004764 |    |
| ## 21 | 20080131 | 0.047029  | 0.014949  | 0.015154  | 0.016772  |    |
| ## 22 | 20080201 | -0.039511 | 0.015984  | 0.015751  | 0.012238  |    |
| ## 23 | 20080204 | -0.009112 | -0.008978 | -0.003026 | -0.010463 |    |
| ## 24 | 20080205 | -0.025152 | -0.030844 | -0.021564 | -0.031995 |    |
| ## 25 | 20080206 | -0.049938 | -0.007995 | -0.007234 | -0.007624 |    |

|       |          |           |           |           |           |
|-------|----------|-----------|-----------|-----------|-----------|
| ## 26 | 20080207 | 0.035334  | 0.007726  | 0.005190  | 0.007886  |
| ## 27 | 20080208 | 0.036525  | -0.002061 | -0.002751 | -0.004204 |
| ## 28 | 20080211 | 0.022993  | 0.005804  | 0.002814  | 0.005889  |
| ## 29 | 20080212 | -0.009842 | 0.006273  | 0.004114  | 0.007266  |
| ## 30 | 20080213 | 0.044057  | 0.014371  | 0.013170  | 0.013604  |
| ## 31 | 20080214 | -0.024830 | -0.013210 | -0.013637 | -0.013421 |
| ## 32 | 20080215 | -0.037467 | -0.000453 | -0.004058 | 0.000838  |
| ## 33 | 20080219 | -0.012061 | 0.000610  | 0.002554  | -0.000896 |
| ## 34 | 20080220 | 0.021643  | 0.008863  | 0.005108  | 0.008341  |
| ## 35 | 20080221 | -0.050788 | -0.011838 | -0.009669 | -0.012867 |
| ## 36 | 20080222 | 0.031187  | 0.006786  | 0.000398  | 0.007881  |
| ## 37 | 20080225 | 0.016509  | 0.015084  | 0.013327  | 0.013813  |
| ## 38 | 20080226 | -0.021564 | 0.008230  | 0.009598  | 0.006918  |
| ## 39 | 20080227 | -0.011438 | -0.000752 | -0.000004 | -0.000919 |
| ## 40 | 20080228 | -0.042613 | -0.007707 | -0.008707 | -0.008942 |
| ## 41 | 20080229 | -0.049816 | -0.026141 | -0.020156 | -0.027090 |
| ## 42 | 20080303 | -0.031643 | -0.000421 | -0.005173 | 0.000534  |
| ## 43 | 20080304 | 0.046612  | -0.004786 | -0.006713 | -0.003448 |
| ## 44 | 20080305 | -0.005355 | 0.006936  | 0.003282  | 0.005238  |
| ## 45 | 20080306 | -0.034622 | -0.022017 | -0.021415 | -0.022014 |
| ## 46 | 20080307 | 0.021517  | -0.008743 | -0.007650 | -0.008410 |
| ## 47 | 20080310 | -0.009674 | -0.018204 | -0.020818 | -0.015463 |
| ## 48 | 20080311 | 0.057980  | 0.035775  | 0.027089  | 0.037130  |
| ## 49 | 20080312 | -0.009531 | -0.007009 | -0.004186 | -0.008996 |
| ## 50 | 20080313 | 0.027214  | 0.007298  | 0.007472  | 0.005127  |
| ## 51 | 20080314 | -0.001464 | -0.020001 | -0.018156 | -0.020783 |
| ## 52 | 20080317 | -0.024773 | -0.014934 | -0.020958 | -0.008959 |
| ## 53 | 20080318 | 0.077709  | 0.039579  | 0.028541  | 0.042410  |
| ## 54 | 20080319 | -0.021339 | -0.026080 | -0.017065 | -0.024287 |
| ## 55 | 20080320 | 0.043038  | 0.021198  | 0.014586  | 0.023944  |
| ## 56 | 20080324 | 0.037710  | 0.017597  | 0.021720  | 0.015321  |
| ## 57 | 20080325 | -0.010270 | 0.005733  | 0.010894  | 0.002304  |
| ## 58 | 20080326 | -0.018225 | -0.006414 | -0.002748 | -0.008766 |
| ## 59 | 20080327 | -0.040650 | -0.010132 | -0.004629 | -0.011460 |
| ## 60 | 20080328 | -0.014689 | -0.007967 | -0.007239 | -0.007950 |
| ## 61 | 20080331 | 0.022076  | 0.005303  | 0.005286  | 0.005687  |
| ## 62 | 20080401 | 0.075736  | 0.032130  | 0.020949  | 0.035896  |
| ## 63 | 20080402 | 0.008735  | 0.000373  | 0.003264  | -0.001934 |
| ## 64 | 20080403 | -0.031408 | 0.002678  | 0.001723  | 0.001302  |
| ## 65 | 20080404 | 0.025754  | 0.001961  | 0.002790  | 0.000796  |
| ## 66 | 20080407 | 0.000390  | 0.001722  | 0.001831  | 0.001562  |
| ## 67 | 20080408 | 0.005202  | -0.003178 | -0.002678 | -0.005100 |
| ## 68 | 20080409 | -0.037646 | -0.008983 | -0.011449 | -0.008092 |
| ## 69 | 20080410 | 0.005915  | 0.005614  | 0.005070  | 0.004474  |
| ## 70 | 20080411 | -0.037953 | -0.019545 | -0.015648 | -0.020374 |
| ## 71 | 20080414 | 0.008612  | -0.002552 | -0.004390 | -0.003384 |
| ## 72 | 20080415 | -0.001515 | 0.005079  | 0.002152  | 0.004600  |
| ## 73 | 20080416 | 0.028828  | 0.024166  | 0.017917  | 0.022691  |
| ## 74 | 20080417 | -0.007374 | -0.001210 | -0.001984 | 0.000623  |
| ## 75 | 20080418 | 0.081848  | 0.016559  | 0.012480  | 0.018139  |
| ## 76 | 20080421 | 0.000999  | -0.000548 | -0.001554 | -0.001554 |
| ## 77 | 20080422 | -0.007234 | -0.009270 | -0.012820 | -0.008810 |
| ## 78 | 20080423 | 0.017588  | 0.001118  | 0.002103  | 0.002900  |
| ## 79 | 20080424 | -0.040864 | 0.005064  | 0.007875  | 0.006442  |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 80  | 20080425 | 0.040803  | 0.006925  | 0.005700  | 0.006495  |
| ## 81  | 20080428 | 0.013727  | 0.000256  | 0.003713  | -0.001052 |
| ## 82  | 20080429 | -0.015006 | -0.005672 | -0.004852 | -0.003889 |
| ## 83  | 20080430 | -0.026133 | -0.001534 | 0.001720  | -0.003846 |
| ## 84  | 20080501 | 0.009284  | 0.014538  | 0.010972  | 0.017141  |
| ## 85  | 20080502 | -0.025832 | 0.003254  | 0.000372  | 0.003236  |
| ## 86  | 20080505 | -0.017980 | -0.002632 | -0.001149 | -0.004534 |
| ## 87  | 20080506 | -0.002766 | 0.008433  | 0.006268  | 0.007652  |
| ## 88  | 20080507 | -0.033417 | -0.015896 | -0.011596 | -0.018114 |
| ## 89  | 20080508 | -0.005329 | 0.004618  | 0.002007  | 0.003669  |
| ## 90  | 20080509 | -0.005220 | -0.004576 | -0.000632 | -0.006725 |
| ## 91  | 20080512 | 0.029278  | 0.010999  | 0.010799  | 0.011021  |
| ## 92  | 20080513 | 0.000403  | 0.000773  | 0.002637  | -0.000385 |
| ## 93  | 20080514 | -0.004828 | 0.003049  | 0.002006  | 0.004006  |
| ## 94  | 20080515 | 0.025876  | 0.011150  | 0.008123  | 0.010585  |
| ## 95  | 20080516 | 0.004467  | 0.002438  | 0.001134  | 0.001250  |
| ## 96  | 20080519 | 0.076249  | -0.000200 | -0.000465 | 0.000898  |
| ## 97  | 20080520 | -0.019079 | -0.005974 | -0.003441 | -0.009274 |
| ## 98  | 20080521 | -0.029980 | -0.015342 | -0.009030 | -0.016053 |
| ## 99  | 20080522 | 0.012261  | 0.002913  | 0.003284  | 0.002617  |
| ## 100 | 20080523 | -0.011481 | -0.011547 | -0.007284 | -0.013210 |
| ## 101 | 20080527 | 0.028973  | 0.004900  | 0.006128  | 0.006846  |
| ## 102 | 20080528 | -0.006698 | 0.005713  | 0.003516  | 0.003963  |
| ## 103 | 20080529 | 0.003372  | 0.004377  | 0.005273  | 0.005335  |
| ## 104 | 20080530 | 0.015806  | 0.003255  | 0.004897  | 0.001516  |
| ## 105 | 20080602 | -0.017030 | -0.009000 | -0.008327 | -0.010504 |
| ## 106 | 20080603 | -0.001496 | -0.004852 | -0.001827 | -0.005788 |
| ## 107 | 20080604 | 0.017351  | -0.000893 | 0.001370  | -0.000327 |
| ## 108 | 20080605 | 0.036933  | 0.020245  | 0.014712  | 0.019496  |
| ## 109 | 20080606 | -0.045912 | -0.026691 | -0.019843 | -0.030889 |
| ## 110 | 20080609 | -0.014883 | -0.000578 | -0.007748 | 0.000794  |
| ## 111 | 20080610 | 0.002392  | -0.004987 | -0.005347 | -0.002438 |
| ## 112 | 20080611 | -0.029390 | -0.015188 | -0.014960 | -0.016894 |
| ## 113 | 20080612 | -0.014622 | 0.001445  | 0.001061  | 0.003280  |
| ## 114 | 20080613 | 0.039659  | 0.014698  | 0.012216  | 0.015046  |
| ## 115 | 20080616 | 0.031957  | 0.003272  | 0.005438  | 0.000081  |
| ## 116 | 20080617 | 0.015545  | -0.003933 | -0.004316 | -0.006771 |
| ## 117 | 20080618 | -0.005424 | -0.008274 | -0.008334 | -0.009712 |
| ## 118 | 20080619 | 0.021086  | 0.002409  | 0.002759  | 0.003752  |
| ## 119 | 20080620 | -0.037503 | -0.017481 | -0.013799 | -0.018543 |
| ## 120 | 20080623 | -0.005179 | -0.000847 | -0.008986 | 0.000053  |
| ## 121 | 20080624 | -0.012890 | -0.006222 | -0.009818 | -0.002815 |
| ## 122 | 20080625 | 0.010924  | 0.006262  | 0.007373  | 0.005843  |
| ## 123 | 20080626 | -0.052292 | -0.026190 | -0.019210 | -0.029365 |
| ## 124 | 20080627 | -0.021494 | -0.002492 | -0.005735 | -0.003717 |
| ## 125 | 20080630 | -0.017814 | -0.001021 | -0.005703 | 0.001267  |
| ## 126 | 20080701 | 0.003955  | 0.001835  | -0.006281 | 0.003836  |
| ## 127 | 20080702 | -0.029612 | -0.020975 | -0.018104 | -0.018204 |
| ## 128 | 20080703 | 0.007839  | -0.002413 | -0.006058 | 0.001094  |
| ## 129 | 20080707 | 0.006806  | -0.008575 | -0.011637 | -0.008385 |
| ## 130 | 20080708 | 0.035177  | 0.017021  | 0.018354  | 0.017080  |
| ## 131 | 20080709 | -0.059035 | -0.019365 | -0.014158 | -0.022776 |
| ## 132 | 20080710 | 0.000283  | 0.007651  | 0.002293  | 0.006990  |
| ## 133 | 20080711 | -0.029591 | -0.008282 | -0.003134 | -0.011090 |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 134 | 20080714 | -0.032973 | -0.008205 | -0.012314 | -0.009028 |
| ## 135 | 20080715 | 0.011316  | -0.011488 | -0.009188 | -0.010901 |
| ## 136 | 20080716 | 0.071759  | 0.024022  | 0.026523  | 0.025064  |
| ## 137 | 20080717 | 0.003758  | 0.009640  | 0.016424  | 0.012013  |
| ## 138 | 20080718 | -0.041464 | 0.000350  | 0.000886  | 0.000286  |
| ## 139 | 20080721 | -0.009259 | 0.003970  | 0.006922  | -0.000539 |
| ## 140 | 20080722 | -0.007447 | 0.011110  | 0.015198  | 0.013492  |
| ## 141 | 20080723 | 0.037811  | 0.001826  | 0.006601  | 0.004064  |
| ## 142 | 20080724 | 0.115963  | -0.024296 | -0.018608 | -0.023125 |
| ## 143 | 20080725 | -0.005208 | 0.005552  | 0.006381  | 0.004168  |
| ## 144 | 20080728 | -0.029753 | -0.016519 | -0.013749 | -0.018597 |
| ## 145 | 20080729 | 0.029350  | 0.021222  | 0.016848  | 0.023356  |
| ## 146 | 20080730 | 0.000000  | 0.016483  | 0.006791  | 0.016672  |
| ## 147 | 20080731 | -0.023910 | -0.011707 | -0.002699 | -0.013144 |
| ## 148 | 20080801 | -0.007729 | -0.005174 | -0.000643 | -0.005578 |
| ## 149 | 20080804 | -0.000528 | -0.013364 | -0.012175 | -0.008966 |
| ## 150 | 20080805 | 0.044908  | 0.024490  | 0.013529  | 0.028719  |
| ## 151 | 20080806 | -0.012893 | 0.005722  | 0.006614  | 0.003354  |
| ## 152 | 20080807 | -0.014599 | -0.016834 | -0.012514 | -0.017934 |
| ## 153 | 20080808 | 0.046264  | 0.019178  | 0.015856  | 0.023893  |
| ## 154 | 20080811 | 0.094150  | 0.006662  | 0.010688  | 0.006943  |
| ## 155 | 20080812 | -0.009536 | -0.009628 | -0.005649 | -0.012051 |
| ## 156 | 20080813 | -0.006418 | -0.000113 | 0.002639  | -0.002916 |
| ## 157 | 20080814 | 0.015457  | 0.005063  | 0.006583  | 0.005522  |
| ## 158 | 20080815 | -0.018516 | 0.001344  | -0.000840 | 0.004076  |
| ## 159 | 20080818 | -0.038079 | -0.013382 | -0.009901 | -0.015098 |
| ## 160 | 20080819 | -0.021899 | -0.008866 | -0.011698 | -0.009315 |
| ## 161 | 20080820 | 0.010333  | 0.006860  | 0.002737  | 0.006197  |
| ## 162 | 20080821 | 0.013759  | 0.003188  | -0.002198 | 0.002495  |
| ## 163 | 20080822 | 0.024021  | 0.009519  | 0.009552  | 0.011333  |
| ## 164 | 20080825 | -0.028267 | -0.018542 | -0.015097 | -0.019625 |
| ## 165 | 20080826 | -0.013156 | 0.003556  | 0.002901  | 0.003686  |
| ## 166 | 20080827 | -0.000367 | 0.009581  | 0.008219  | 0.007983  |
| ## 167 | 20080828 | 0.020678  | 0.014315  | 0.013386  | 0.014840  |
| ## 168 | 20080829 | -0.031287 | -0.011673 | -0.003383 | -0.013724 |
| ## 169 | 20080902 | 0.007425  | -0.006992 | -0.003504 | -0.004093 |
| ## 170 | 20080903 | -0.007862 | -0.002963 | -0.000438 | -0.002035 |
| ## 171 | 20080904 | -0.033923 | -0.028926 | -0.021585 | -0.029922 |
| ## 172 | 20080905 | 0.014866  | 0.003849  | -0.000287 | 0.004431  |
| ## 173 | 20080908 | 0.024877  | 0.014858  | 0.007695  | 0.020510  |
| ## 174 | 20080909 | -0.026121 | -0.034931 | -0.028931 | -0.034138 |
| ## 175 | 20080910 | -0.029099 | 0.008548  | 0.003563  | 0.006149  |
| ## 176 | 20080911 | 0.036096  | 0.010959  | -0.002843 | 0.013806  |
| ## 177 | 20080912 | -0.015218 | 0.005352  | 0.004946  | 0.002122  |
| ## 178 | 20080915 | -0.012261 | -0.045666 | -0.039339 | -0.047136 |
| ## 179 | 20080916 | 0.017973  | 0.015191  | 0.003425  | 0.017515  |
| ## 180 | 20080917 | -0.091325 | -0.045473 | -0.040852 | -0.047133 |
| ## 181 | 20080918 | 0.069332  | 0.044137  | 0.041546  | 0.043342  |
| ## 182 | 20080919 | 0.058824  | 0.046048  | 0.049560  | 0.040257  |
| ## 183 | 20080922 | -0.074938 | -0.036785 | -0.026831 | -0.038237 |
| ## 184 | 20080923 | -0.042306 | -0.015606 | -0.012835 | -0.015633 |
| ## 185 | 20080924 | -0.025084 | -0.003268 | -0.009146 | -0.001978 |
| ## 186 | 20080925 | 0.030303  | 0.016569  | 0.008859  | 0.019656  |
| ## 187 | 20080926 | -0.019145 | -0.001992 | -0.008253 | 0.003167  |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 188 | 20080929 | -0.103960 | -0.082545 | -0.061278 | -0.087897 |
| ## 189 | 20080930 | 0.148540  | 0.046622  | 0.027763  | 0.054203  |
| ## 190 | 20081001 | -0.043705 | -0.005668 | -0.004615 | -0.004544 |
| ## 191 | 20081002 | -0.031906 | -0.045656 | -0.039095 | -0.040291 |
| ## 192 | 20081003 | -0.005344 | -0.014290 | -0.016888 | -0.013506 |
| ## 193 | 20081006 | -0.026418 | -0.042414 | -0.059322 | -0.038518 |
| ## 194 | 20081007 | -0.102867 | -0.057907 | -0.047021 | -0.057395 |
| ## 195 | 20081008 | 0.042720  | -0.011615 | -0.026835 | -0.011333 |
| ## 196 | 20081009 | -0.082268 | -0.072737 | -0.063671 | -0.076167 |
| ## 197 | 20081010 | 0.004464  | -0.012086 | -0.006462 | -0.011759 |
| ## 198 | 20081013 | 0.102578  | 0.114895  | 0.107422  | 0.115800  |
| ## 199 | 20081014 | -0.099323 | -0.009038 | -0.001674 | -0.005322 |
| ## 200 | 20081015 | -0.127820 | -0.089763 | -0.070781 | -0.090350 |
| ## 201 | 20081016 | 0.032225  | 0.039641  | 0.029535  | 0.042507  |
| ## 202 | 20081017 | 0.007158  | -0.002486 | 0.001630  | -0.006213 |
| ## 203 | 20081020 | 0.045805  | 0.046517  | 0.035555  | 0.047685  |
| ## 204 | 20081021 | -0.051727 | -0.031474 | -0.020675 | -0.030800 |
| ## 205 | 20081022 | -0.004778 | -0.059116 | -0.048848 | -0.061013 |
| ## 206 | 20081023 | 0.006601  | 0.000893  | -0.020278 | 0.012634  |
| ## 207 | 20081024 | -0.027027 | -0.033442 | -0.031303 | -0.034511 |
| ## 208 | 20081027 | 0.012663  | -0.036945 | -0.035385 | -0.031764 |
| ## 209 | 20081028 | 0.130294  | 0.095270  | 0.050386  | 0.107890  |
| ## 210 | 20081029 | 0.015168  | 0.001437  | 0.021629  | -0.011079 |
| ## 211 | 20081030 | -0.003164 | 0.031983  | 0.035643  | 0.025804  |
| ## 212 | 20081031 | 0.009346  | 0.018100  | 0.033921  | 0.015365  |
| ## 213 | 20081103 | -0.025681 | -0.000639 | 0.008679  | -0.002529 |
| ## 214 | 20081104 | 0.048055  | 0.038998  | 0.026558  | 0.040826  |
| ## 215 | 20081105 | -0.110693 | -0.050708 | -0.037383 | -0.052677 |
| ## 216 | 20081106 | -0.091574 | -0.049090 | -0.038082 | -0.050264 |
| ## 217 | 20081107 | 0.042143  | 0.026407  | 0.014462  | 0.028855  |
| ## 218 | 20081110 | -0.015241 | -0.013298 | -0.019190 | -0.012653 |
| ## 219 | 20081111 | -0.044573 | -0.024388 | -0.028206 | -0.022041 |
| ## 220 | 20081112 | -0.102376 | -0.053602 | -0.053999 | -0.051894 |
| ## 221 | 20081113 | 0.081088  | 0.067985  | 0.048470  | 0.069213  |
| ## 222 | 20081114 | -0.070777 | -0.043638 | -0.039602 | -0.041699 |
| ## 223 | 20081117 | -0.049341 | -0.023976 | -0.022056 | -0.025810 |
| ## 224 | 20081118 | -0.031494 | 0.005706  | -0.010726 | 0.009838  |
| ## 225 | 20081119 | -0.067638 | -0.063936 | -0.064334 | -0.061156 |
| ## 226 | 20081120 | -0.022600 | -0.070097 | -0.067040 | -0.067123 |
| ## 227 | 20081121 | 0.081073  | 0.061103  | 0.033462  | 0.063248  |
| ## 228 | 20081124 | 0.122260  | 0.066109  | 0.063643  | 0.064723  |
| ## 229 | 20081125 | -0.007294 | 0.009689  | 0.015473  | 0.006551  |
| ## 230 | 20081126 | 0.041953  | 0.038377  | 0.052113  | 0.035328  |
| ## 231 | 20081128 | -0.028662 | 0.010105  | 0.020016  | 0.009643  |
| ## 232 | 20081201 | -0.052225 | -0.089367 | -0.078240 | -0.089295 |
| ## 233 | 20081202 | 0.017791  | 0.037685  | 0.035206  | 0.039941  |
| ## 234 | 20081203 | 0.097597  | 0.024011  | 0.014731  | 0.025836  |
| ## 235 | 20081204 | 0.046671  | -0.030128 | -0.021850 | -0.029308 |
| ## 236 | 20081205 | 0.019865  | 0.036125  | 0.026043  | 0.036499  |
| ## 237 | 20081208 | 0.065271  | 0.040405  | 0.037923  | 0.038387  |
| ## 238 | 20081209 | -0.003112 | -0.022357 | -0.014899 | -0.023118 |
| ## 239 | 20081210 | -0.030244 | 0.015138  | 0.022018  | 0.011894  |
| ## 240 | 20081211 | -0.029175 | -0.029863 | -0.026441 | -0.028524 |
| ## 241 | 20081212 | 0.062176  | 0.010468  | 0.017839  | 0.007028  |

|    |     |          |           |           |           |           |
|----|-----|----------|-----------|-----------|-----------|-----------|
| ## | 242 | 20081215 | -0.046829 | -0.013852 | -0.019337 | -0.012686 |
| ## | 243 | 20081216 | 0.077380  | 0.052858  | 0.046643  | 0.051360  |
| ## | 244 | 20081217 | 0.010450  | -0.004824 | 0.010979  | -0.009593 |
| ## | 245 | 20081218 | -0.020684 | -0.020522 | -0.011857 | -0.021163 |
| ## | 246 | 20081219 | -0.009985 | 0.003885  | 0.003826  | 0.002937  |
| ## | 247 | 20081222 | -0.033359 | -0.019139 | -0.012689 | -0.018302 |
| ## | 248 | 20081223 | 0.024880  | -0.007582 | -0.007736 | -0.009717 |
| ## | 249 | 20081224 | 0.007048  | 0.004509  | 0.005042  | 0.005781  |
| ## | 250 | 20081226 | 0.006610  | 0.007193  | 0.011103  | 0.005356  |
| ## | 251 | 20081229 | -0.045964 | -0.004364 | -0.015176 | -0.003873 |
| ## | 252 | 20081230 | 0.027530  | 0.024762  | 0.021418  | 0.024407  |
| ## | 253 | 20081231 | 0.010244  | 0.017395  | 0.034456  | 0.014158  |
| ## | 254 | 20090102 | 0.060062  | 0.030501  | 0.038274  | 0.031608  |
| ## | 255 | 20090105 | -0.005519 | -0.000473 | 0.016764  | -0.004668 |
| ## | 256 | 20090106 | 0.061043  | 0.011311  | 0.033647  | 0.007817  |
| ## | 257 | 20090107 | -0.020223 | -0.030453 | -0.022271 | -0.030010 |
| ## | 258 | 20090108 | 0.017082  | 0.006321  | 0.011896  | 0.003397  |
| ## | 259 | 20090109 | -0.028866 | -0.022379 | -0.018748 | -0.021303 |
| ## | 260 | 20090112 | -0.064673 | -0.025394 | -0.026589 | -0.022564 |
| ## | 261 | 20090113 | -0.009052 | 0.003593  | 0.003554  | 0.001758  |
| ## | 262 | 20090114 | -0.057532 | -0.035170 | -0.035065 | -0.033460 |
| ## | 263 | 20090115 | 0.060837  | 0.004994  | 0.005630  | 0.001329  |
| ## | 264 | 20090116 | 0.002916  | 0.008679  | 0.008792  | 0.007562  |
| ## | 265 | 20090120 | -0.061058 | -0.054850 | -0.051506 | -0.052816 |
| ## | 266 | 20090121 | 0.043353  | 0.042931  | 0.036151  | 0.043491  |
| ## | 267 | 20090122 | -0.011872 | -0.018094 | -0.021960 | -0.015162 |
| ## | 268 | 20090123 | 0.013817  | 0.006779  | 0.003373  | 0.005378  |
| ## | 269 | 20090126 | -0.019751 | 0.006185  | 0.010067  | 0.005553  |
| ## | 270 | 20090127 | -0.023977 | 0.011213  | 0.010037  | 0.010926  |
| ## | 271 | 20090128 | 0.039637  | 0.033502  | 0.030523  | 0.033558  |
| ## | 272 | 20090129 | -0.007149 | -0.032705 | -0.028890 | -0.033120 |
| ## | 273 | 20090130 | 0.176400  | -0.020773 | -0.012829 | -0.022789 |
| ## | 274 | 20090202 | 0.039612  | -0.001069 | 0.001559  | -0.000533 |
| ## | 275 | 20090203 | 0.039902  | 0.014360  | 0.008983  | 0.015834  |
| ## | 276 | 20090204 | -0.039786 | -0.004422 | -0.004053 | -0.007489 |
| ## | 277 | 20090205 | 0.034720  | 0.015532  | 0.011978  | 0.016366  |
| ## | 278 | 20090206 | 0.053340  | 0.027932  | 0.026723  | 0.026896  |
| ## | 279 | 20090209 | 0.002404  | 0.001231  | 0.000768  | 0.001485  |
| ## | 280 | 20090210 | -0.050967 | -0.045998 | -0.035051 | -0.049121 |
| ## | 281 | 20090211 | 0.016490  | 0.007307  | 0.004636  | 0.007955  |
| ## | 282 | 20090212 | -0.006122 | 0.002614  | -0.000766 | 0.001739  |
| ## | 283 | 20090213 | -0.010944 | -0.008814 | -0.002111 | -0.009998 |
| ## | 284 | 20090217 | -0.025134 | -0.045265 | -0.041883 | -0.045559 |
| ## | 285 | 20090218 | 0.011026  | -0.003760 | -0.011621 | -0.000950 |
| ## | 286 | 20090219 | -0.006415 | -0.011172 | -0.015135 | -0.012024 |
| ## | 287 | 20090220 | 0.030831  | -0.011760 | -0.020020 | -0.011413 |
| ## | 288 | 20090223 | -0.033667 | -0.036123 | -0.030842 | -0.034699 |
| ## | 289 | 20090224 | 0.063037  | 0.040181  | 0.037750  | 0.040103  |
| ## | 290 | 20090225 | -0.028811 | -0.010664 | -0.015518 | -0.010658 |
| ## | 291 | 20090226 | -0.021504 | -0.012148 | -0.007036 | -0.015780 |
| ## | 292 | 20090227 | 0.039301  | -0.019050 | -0.010451 | -0.023564 |
| ## | 293 | 20090302 | -0.043217 | -0.049809 | -0.055698 | -0.046620 |
| ## | 294 | 20090303 | -0.004678 | -0.006325 | -0.013924 | -0.006407 |
| ## | 295 | 20090304 | 0.050405  | 0.025902  | 0.029680  | 0.023753  |

|    |     |          |           |           |           |           |
|----|-----|----------|-----------|-----------|-----------|-----------|
| ## | 296 | 20090305 | -0.000617 | -0.041836 | -0.049091 | -0.042532 |
| ## | 297 | 20090306 | -0.047553 | 0.001617  | -0.002234 | 0.001216  |
| ## | 298 | 20090309 | -0.019452 | -0.011360 | -0.016324 | -0.010024 |
| ## | 299 | 20090310 | 0.086295  | 0.063381  | 0.062630  | 0.063663  |
| ## | 300 | 20090311 | 0.043068  | 0.004059  | 0.005505  | 0.002446  |
| ## | 301 | 20090312 | 0.015174  | 0.041915  | 0.051270  | 0.040729  |
| ## | 302 | 20090313 | -0.013653 | 0.006025  | 0.009588  | 0.007739  |
| ## | 303 | 20090316 | -0.024042 | -0.004790 | 0.001275  | -0.003516 |
| ## | 304 | 20090317 | 0.065243  | 0.031011  | 0.030369  | 0.032140  |
| ## | 305 | 20090318 | -0.001402 | 0.022361  | 0.034165  | 0.020858  |
| ## | 306 | 20090319 | -0.016140 | -0.007990 | 0.007670  | -0.012979 |
| ## | 307 | 20090320 | -0.001997 | -0.020300 | -0.014139 | -0.019769 |
| ## | 308 | 20090323 | 0.080332  | 0.069054  | 0.064792  | 0.070758  |
| ## | 309 | 20090324 | -0.036650 | -0.019963 | -0.016054 | -0.020415 |
| ## | 310 | 20090325 | -0.005631 | 0.009016  | 0.017815  | 0.009626  |
| ## | 311 | 20090326 | 0.017818  | 0.025259  | 0.035806  | 0.023320  |
| ## | 312 | 20090327 | -0.043018 | -0.021632 | -0.021529 | -0.020316 |
| ## | 313 | 20090330 | 0.013046  | -0.036229 | -0.031872 | -0.034819 |
| ## | 314 | 20090331 | 0.027996  | 0.014244  | 0.020144  | 0.013130  |
| ## | 315 | 20090401 | 0.000817  | 0.017208  | 0.015828  | 0.016557  |
| ## | 316 | 20090402 | 0.038639  | 0.031717  | 0.039004  | 0.028727  |
| ## | 317 | 20090403 | 0.023972  | 0.011632  | 0.012703  | 0.009732  |
| ## | 318 | 20090406 | -0.002303 | -0.009799 | -0.007213 | -0.008332 |
| ## | 319 | 20090407 | -0.031799 | -0.024644 | -0.020098 | -0.023855 |
| ## | 320 | 20090408 | 0.019468  | 0.013118  | 0.017512  | 0.011783  |
| ## | 321 | 20090409 | 0.036243  | 0.039485  | 0.045859  | 0.038053  |
| ## | 322 | 20090413 | -0.010405 | 0.003951  | 0.007468  | 0.002533  |
| ## | 323 | 20090414 | -0.021789 | -0.019504 | -0.012727 | -0.020065 |
| ## | 324 | 20090415 | -0.032505 | 0.012434  | 0.013648  | 0.012549  |
| ## | 325 | 20090416 | 0.033998  | 0.016087  | 0.020373  | 0.015539  |
| ## | 326 | 20090417 | 0.010356  | 0.006018  | 0.013755  | 0.004969  |
| ## | 327 | 20090420 | -0.006150 | -0.044751 | -0.042003 | -0.042790 |
| ## | 328 | 20090421 | 0.015083  | 0.022725  | 0.029020  | 0.021252  |
| ## | 329 | 20090422 | 0.005842  | -0.005672 | 0.005406  | -0.007682 |
| ## | 330 | 20090423 | 0.017803  | 0.009216  | 0.001729  | 0.009922  |
| ## | 331 | 20090424 | 0.047761  | 0.018994  | 0.021507  | 0.016797  |
| ## | 332 | 20090427 | -0.015865 | -0.011383 | -0.011690 | -0.010067 |
| ## | 333 | 20090428 | -0.008662 | -0.002817 | 0.005018  | -0.002740 |
| ## | 334 | 20090429 | -0.031675 | 0.024493  | 0.028567  | 0.021610  |
| ## | 335 | 20090430 | 0.009149  | -0.000435 | 0.004244  | -0.000950 |
| ## | 336 | 20090501 | -0.019374 | 0.005980  | 0.008472  | 0.005396  |
| ## | 337 | 20090504 | 0.010258  | 0.035866  | 0.037638  | 0.033868  |
| ## | 338 | 20090505 | 0.026702  | -0.003456 | 0.002787  | -0.003792 |
| ## | 339 | 20090506 | 0.001099  | 0.016030  | 0.015205  | 0.017404  |
| ## | 340 | 20090507 | -0.033053 | -0.015464 | -0.011281 | -0.013202 |
| ## | 341 | 20090508 | -0.016776 | 0.027318  | 0.034000  | 0.024069  |
| ## | 342 | 20090511 | 0.008467  | -0.020737 | -0.006809 | -0.021512 |
| ## | 343 | 20090512 | -0.008650 | -0.002660 | -0.005772 | -0.000979 |
| ## | 344 | 20090513 | -0.047992 | -0.031143 | -0.036948 | -0.026895 |
| ## | 345 | 20090514 | 0.012401  | 0.012408  | 0.013597  | 0.010352  |
| ## | 346 | 20090515 | -0.020104 | -0.010643 | -0.008198 | -0.011410 |
| ## | 347 | 20090518 | 0.031929  | 0.033016  | 0.034462  | 0.030389  |
| ## | 348 | 20090519 | 0.025280  | 0.000506  | 0.004847  | -0.001737 |
| ## | 349 | 20090520 | 0.001284  | -0.001788 | 0.000386  | -0.005131 |

|    |     |          |           |           |           |           |
|----|-----|----------|-----------|-----------|-----------|-----------|
| ## | 350 | 20090521 | -0.025779 | -0.016573 | -0.013909 | -0.016758 |
| ## | 351 | 20090522 | -0.004213 | -0.000097 | 0.000888  | -0.001497 |
| ## | 352 | 20090526 | 0.036356  | 0.028116  | 0.027228  | 0.026302  |
| ## | 353 | 20090527 | -0.016456 | -0.017272 | -0.010079 | -0.018971 |
| ## | 354 | 20090528 | 0.007134  | 0.015061  | 0.008296  | 0.015419  |
| ## | 355 | 20090529 | 0.004379  | 0.014744  | 0.014973  | 0.013575  |
| ## | 356 | 20090601 | 0.064880  | 0.027025  | 0.029234  | 0.025818  |
| ## | 357 | 20090602 | 0.022637  | 0.003103  | 0.006477  | 0.001983  |
| ## | 358 | 20090603 | 0.008831  | -0.017262 | -0.010874 | -0.013739 |
| ## | 359 | 20090604 | -0.001867 | 0.013639  | 0.019881  | 0.011484  |
| ## | 360 | 20090605 | 0.023854  | -0.003114 | 0.001207  | -0.002515 |
| ## | 361 | 20090608 | -0.013705 | -0.002647 | -0.003553 | -0.001011 |
| ## | 362 | 20090609 | 0.008337  | 0.005493  | 0.008719  | 0.003503  |
| ## | 363 | 20090610 | -0.005627 | -0.002836 | -0.002291 | -0.003480 |
| ## | 364 | 20090611 | -0.010394 | 0.007217  | 0.010810  | 0.006112  |
| ## | 365 | 20090612 | -0.018789 | -0.001359 | -0.002603 | 0.001397  |
| ## | 366 | 20090615 | -0.010704 | -0.025417 | -0.023409 | -0.023769 |
| ## | 367 | 20090616 | -0.012383 | -0.013118 | -0.011482 | -0.012720 |
| ## | 368 | 20090617 | 0.006086  | -0.003016 | -0.001874 | -0.001382 |
| ## | 369 | 20090618 | -0.012765 | 0.006611  | 0.003136  | 0.008411  |
| ## | 370 | 20090619 | 0.016729  | 0.004105  | 0.006317  | 0.003114  |
| ## | 371 | 20090622 | -0.045926 | -0.033150 | -0.033322 | -0.030600 |
| ## | 372 | 20090623 | -0.018572 | 0.002262  | -0.002680 | 0.002307  |
| ## | 373 | 20090624 | 0.020469  | 0.008940  | 0.008663  | 0.006524  |
| ## | 374 | 20090625 | 0.036962  | 0.021620  | 0.021950  | 0.021444  |
| ## | 375 | 20090626 | 0.020438  | 0.000870  | 0.009695  | -0.001478 |
| ## | 376 | 20090629 | -0.010134 | 0.007693  | 0.002620  | 0.009065  |
| ## | 377 | 20090630 | 0.007588  | -0.007753 | -0.001692 | -0.008531 |
| ## | 378 | 20090701 | -0.024624 | 0.006079  | 0.011727  | 0.004362  |
| ## | 379 | 20090702 | -0.027941 | -0.028141 | -0.024530 | -0.029145 |
| ## | 380 | 20090706 | -0.015381 | -0.001717 | -0.008867 | 0.002566  |
| ## | 381 | 20090707 | -0.031626 | -0.019569 | -0.015998 | -0.019684 |
| ## | 382 | 20090708 | 0.022875  | -0.003646 | -0.010970 | -0.001669 |
| ## | 383 | 20090709 | 0.009566  | 0.004873  | 0.005021  | 0.003547  |
| ## | 384 | 20090710 | -0.006018 | -0.003383 | -0.000116 | -0.004022 |
| ## | 385 | 20090713 | 0.049465  | 0.023940  | 0.016221  | 0.024934  |
| ## | 386 | 20090714 | 0.005892  | 0.007257  | 0.008311  | 0.005316  |
| ## | 387 | 20090715 | 0.031727  | 0.031145  | 0.029617  | 0.029630  |
| ## | 388 | 20090716 | 0.018451  | 0.009459  | 0.008224  | 0.008642  |
| ## | 389 | 20090717 | -0.003019 | -0.000098 | -0.001876 | -0.000383 |
| ## | 390 | 20090720 | 0.027723  | 0.013498  | 0.015346  | 0.011432  |
| ## | 391 | 20090721 | 0.008841  | 0.002488  | -0.001750 | 0.003627  |
| ## | 392 | 20090722 | -0.002472 | 0.000629  | 0.006326  | -0.000534 |
| ## | 393 | 20090723 | 0.057214  | 0.024244  | 0.022672  | 0.023290  |
| ## | 394 | 20090724 | -0.078619 | 0.004319  | 0.006538  | 0.003042  |
| ## | 395 | 20090727 | -0.026015 | 0.003423  | 0.007161  | 0.002982  |
| ## | 396 | 20090728 | 0.008784  | -0.003765 | 0.001287  | -0.002606 |
| ## | 397 | 20090729 | -0.007531 | -0.006495 | -0.005145 | -0.004563 |
| ## | 398 | 20090730 | 0.020749  | 0.013393  | 0.015049  | 0.011896  |
| ## | 399 | 20090731 | -0.003833 | 0.002693  | 0.004968  | 0.000740  |
| ## | 400 | 20090803 | 0.019590  | 0.017986  | 0.019051  | 0.015342  |
| ## | 401 | 20090804 | -0.018756 | 0.002506  | 0.006835  | 0.003012  |
| ## | 402 | 20090805 | -0.017599 | -0.002041 | 0.000603  | -0.002914 |
| ## | 403 | 20090806 | 0.002135  | -0.007506 | -0.007208 | -0.005625 |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 404 | 20090807 | 0.010063  | 0.013322  | 0.017849  | 0.013439  |
| ## 405 | 20090810 | -0.010314 | -0.004380 | 0.002095  | -0.003345 |
| ## 406 | 20090811 | -0.010422 | -0.013759 | -0.011713 | -0.012660 |
| ## 407 | 20090812 | 0.028722  | 0.012276  | 0.012435  | 0.011525  |
| ## 408 | 20090813 | -0.015821 | 0.008371  | 0.007157  | 0.006880  |
| ## 409 | 20090814 | -0.012057 | -0.010003 | -0.012073 | -0.008531 |
| ## 410 | 20090817 | -0.030151 | -0.026001 | -0.025879 | -0.024261 |
| ## 411 | 20090818 | 0.013077  | 0.012014  | 0.015007  | 0.010146  |
| ## 412 | 20090819 | 0.010716  | 0.006921  | 0.006590  | 0.006861  |
| ## 413 | 20090820 | 0.013132  | 0.010678  | 0.010307  | 0.010949  |
| ## 414 | 20090821 | 0.010822  | 0.018204  | 0.016437  | 0.018623  |
| ## 415 | 20090824 | -0.005882 | -0.000862 | 0.001050  | -0.000546 |
| ## 416 | 20090825 | -0.003669 | 0.002729  | 0.005311  | 0.002369  |
| ## 417 | 20090826 | -0.002257 | -0.000803 | 0.003465  | 0.000117  |
| ## 418 | 20090827 | 0.003690  | 0.003056  | 0.002991  | 0.002782  |
| ## 419 | 20090828 | -0.018384 | -0.001427 | -0.001743 | -0.001988 |
| ## 420 | 20090831 | -0.018971 | -0.009174 | -0.009000 | -0.008076 |
| ## 421 | 20090901 | -0.025003 | -0.021949 | -0.019637 | -0.022124 |
| ## 422 | 20090902 | -0.012885 | -0.002633 | -0.000628 | -0.003296 |
| ## 423 | 20090903 | 0.004095  | 0.010686  | 0.010589  | 0.008535  |
| ## 424 | 20090904 | 0.005226  | 0.013981  | 0.013220  | 0.013118  |
| ## 425 | 20090908 | 0.025739  | 0.010414  | 0.011746  | 0.008845  |
| ## 426 | 20090909 | 0.016564  | 0.007775  | 0.011660  | 0.007782  |
| ## 427 | 20090910 | 0.019577  | 0.011157  | 0.012918  | 0.010422  |
| ## 428 | 20090911 | 0.008229  | 0.000086  | 0.002029  | -0.001350 |
| ## 429 | 20090914 | -0.008044 | 0.006368  | 0.008107  | 0.006339  |
| ## 430 | 20090915 | -0.003697 | 0.006168  | 0.009201  | 0.003135  |
| ## 431 | 20090916 | 0.085577  | 0.016257  | 0.017454  | 0.015324  |
| ## 432 | 20090917 | -0.002867 | -0.003706 | -0.000030 | -0.003060 |
| ## 433 | 20090918 | -0.001769 | 0.001872  | 0.002461  | 0.002637  |
| ## 434 | 20090921 | 0.003101  | -0.004261 | -0.001788 | -0.003407 |
| ## 435 | 20090922 | 0.035225  | 0.008546  | 0.009561  | 0.006575  |
| ## 436 | 20090923 | -0.014613 | -0.010358 | -0.004688 | -0.010068 |
| ## 437 | 20090924 | -0.002923 | -0.012660 | -0.015964 | -0.009511 |
| ## 438 | 20090925 | -0.017262 | -0.006349 | -0.002456 | -0.006091 |
| ## 439 | 20090928 | 0.018670  | 0.017953  | 0.015754  | 0.017810  |
| ## 440 | 20090929 | -0.005314 | -0.001070 | 0.000059  | -0.002230 |
| ## 441 | 20090930 | 0.017880  | -0.002879 | -0.004316 | -0.003328 |
| ## 442 | 20091001 | -0.024850 | -0.027084 | -0.024204 | -0.025760 |
| ## 443 | 20091002 | -0.013071 | -0.005308 | -0.006507 | -0.004506 |
| ## 444 | 20091005 | -0.013133 | 0.016006  | 0.015677  | 0.014875  |
| ## 445 | 20091006 | 0.025262  | 0.014545  | 0.013401  | 0.013705  |
| ## 446 | 20091007 | 0.033660  | 0.003050  | 0.002384  | 0.002712  |
| ## 447 | 20091008 | 0.013302  | 0.009683  | 0.009296  | 0.007470  |
| ## 448 | 20091009 | 0.005146  | 0.005243  | 0.006573  | 0.005641  |
| ## 449 | 20091012 | -0.022046 | 0.003888  | 0.000513  | 0.004386  |
| ## 450 | 20091013 | 0.013141  | -0.001924 | -0.000480 | -0.002788 |
| ## 451 | 20091014 | 0.027734  | 0.017819  | 0.014102  | 0.017546  |
| ## 452 | 20091015 | -0.014878 | 0.002400  | 0.000130  | 0.004157  |
| ## 453 | 20091016 | -0.007187 | -0.008152 | -0.006059 | -0.008098 |
| ## 454 | 20091019 | -0.006714 | 0.009986  | 0.007874  | 0.009405  |
| ## 455 | 20091020 | 0.003169  | -0.007968 | -0.009123 | -0.006239 |
| ## 456 | 20091021 | -0.016425 | -0.008346 | -0.006952 | -0.008854 |
| ## 457 | 20091022 | 0.000321  | 0.010140  | 0.006973  | 0.010644  |

|        |          |           |           |           |           |
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| ## 458 | 20091023 | 0.267951  | -0.012718 | -0.013168 | -0.012179 |
| ## 459 | 20091026 | 0.051902  | -0.013198 | -0.012990 | -0.011717 |
| ## 460 | 20091027 | -0.020619 | -0.006300 | -0.010169 | -0.003318 |
| ## 461 | 20091028 | -0.003523 | -0.023828 | -0.030392 | -0.019541 |
| ## 462 | 20091029 | 0.007703  | 0.023800  | 0.020349  | 0.022520  |
| ## 463 | 20091030 | -0.030732 | -0.028000 | -0.023885 | -0.028065 |
| ## 464 | 20091102 | 0.000252  | 0.005085  | -0.001022 | 0.006456  |
| ## 465 | 20091103 | -0.003955 | 0.005749  | 0.009401  | 0.002426  |
| ## 466 | 20091104 | -0.010729 | 0.000864  | -0.002387 | 0.001043  |
| ## 467 | 20091105 | 0.029974  | 0.019377  | 0.020275  | 0.019236  |
| ## 468 | 20091106 | 0.046348  | 0.001556  | -0.000597 | 0.002503  |
| ## 469 | 20091109 | 0.003724  | 0.023290  | 0.015690  | 0.022239  |
| ## 470 | 20091110 | 0.027473  | -0.000669 | -0.006304 | -0.000064 |
| ## 471 | 20091111 | -0.001844 | 0.005482  | 0.005813  | 0.005032  |
| ## 472 | 20091112 | 0.004772  | -0.011727 | -0.014038 | -0.010259 |
| ## 473 | 20091113 | 0.018693  | 0.006826  | 0.007887  | 0.005739  |
| ## 474 | 20091116 | -0.010378 | 0.015594  | 0.016714  | 0.014468  |
| ## 475 | 20091117 | -0.002584 | 0.001239  | -0.001824 | 0.000919  |
| ## 476 | 20091118 | 0.000305  | -0.000940 | -0.001355 | -0.000468 |
| ## 477 | 20091119 | -0.017518 | -0.014012 | -0.014576 | -0.013426 |
| ## 478 | 20091120 | 0.005194  | -0.003932 | -0.001469 | -0.003215 |
| ## 479 | 20091123 | 0.025760  | 0.012973  | 0.010755  | 0.013616  |
| ## 480 | 20091124 | -0.000451 | -0.001309 | -0.002305 | -0.000533 |
| ## 481 | 20091125 | 0.008199  | 0.005829  | 0.003686  | 0.004504  |
| ## 482 | 20091127 | -0.017086 | -0.018556 | -0.016764 | -0.017233 |
| ## 483 | 20091130 | 0.031653  | 0.003950  | 0.002433  | 0.003793  |
| ## 484 | 20091201 | 0.019057  | 0.014008  | 0.012539  | 0.012075  |
| ## 485 | 20091202 | 0.027076  | 0.002343  | 0.005848  | 0.000343  |
| ## 486 | 20091203 | -0.007592 | -0.008822 | -0.006843 | -0.008402 |
| ## 487 | 20091204 | -0.025430 | 0.005363  | 0.011082  | 0.005509  |
| ## 488 | 20091207 | -0.024495 | -0.001581 | 0.001961  | -0.002468 |
| ## 489 | 20091208 | -0.000745 | -0.010582 | -0.007915 | -0.010252 |
| ## 490 | 20091209 | -0.020878 | 0.003537  | 0.002190  | 0.003672  |
| ## 491 | 20091210 | 0.030995  | 0.005291  | -0.001180 | 0.005840  |
| ## 492 | 20091211 | -0.009086 | 0.003171  | 0.005236  | 0.003683  |
| ## 493 | 20091214 | -0.020648 | 0.008465  | 0.009914  | 0.006959  |
| ## 494 | 20091215 | -0.008753 | -0.004611 | -0.004277 | -0.005547 |
| ## 495 | 20091216 | -0.014359 | 0.003300  | 0.005027  | 0.001128  |
| ## 496 | 20091217 | -0.011296 | -0.012545 | -0.010307 | -0.011811 |
| ## 497 | 20091218 | 0.012371  | 0.006087  | 0.005057  | 0.005830  |
| ## 498 | 20091221 | 0.033546  | 0.009734  | 0.009406  | 0.010504  |
| ## 499 | 20091222 | 0.007230  | 0.004602  | 0.005825  | 0.003564  |
| ## 500 | 20091223 | 0.038804  | 0.004718  | 0.008581  | 0.002299  |
| ## 501 | 20091224 | -0.003383 | 0.005241  | 0.005349  | 0.005256  |
| ## 502 | 20091228 | 0.006066  | 0.000984  | -0.000149 | 0.001154  |
| ## 503 | 20091229 | 0.000718  | -0.000930 | 0.001665  | -0.001401 |
| ## 504 | 20091230 | -0.020945 | -0.000668 | 0.000497  | 0.000195  |
| ## 505 | 20091231 | -0.014433 | -0.008659 | -0.002657 | -0.010050 |
| ## 506 | 20100104 | -0.004609 | 0.017121  | 0.019120  | 0.016043  |
| ## 507 | 20100105 | 0.005900  | 0.003368  | 0.002475  | 0.003116  |
| ## 508 | 20100106 | -0.018116 | 0.002052  | 0.003210  | 0.000546  |
| ## 509 | 20100107 | -0.017013 | 0.002854  | 0.006887  | 0.004001  |
| ## 510 | 20100108 | 0.027077  | 0.004162  | 0.007230  | 0.002882  |
| ## 511 | 20100111 | -0.024056 | 0.001122  | 0.003568  | 0.001747  |

|    |     |          |           |           |           |           |
|----|-----|----------|-----------|-----------|-----------|-----------|
| ## | 512 | 20100112 | -0.022700 | -0.010991 | -0.010170 | -0.009381 |
| ## | 513 | 20100113 | 0.013820  | 0.008639  | 0.008890  | 0.008326  |
| ## | 514 | 20100114 | -0.013632 | 0.002320  | 0.004431  | 0.002427  |
| ## | 515 | 20100115 | -0.001649 | -0.011321 | -0.008664 | -0.010823 |
| ## | 516 | 20100119 | 0.003697  | 0.012054  | 0.011286  | 0.012500  |
| ## | 517 | 20100120 | -0.014341 | -0.011062 | -0.009048 | -0.010598 |
| ## | 518 | 20100121 | 0.006678  | -0.017736 | -0.014191 | -0.018945 |
| ## | 519 | 20100122 | -0.040989 | -0.020991 | -0.014432 | -0.022141 |
| ## | 520 | 20100125 | -0.009223 | 0.003893  | 0.000975  | 0.004598  |
| ## | 521 | 20100126 | -0.006899 | -0.004906 | -0.006016 | -0.004203 |
| ## | 522 | 20100127 | 0.027369  | 0.004153  | 0.001880  | 0.004880  |
| ## | 523 | 20100128 | 0.026721  | -0.011295 | -0.008876 | -0.011818 |
| ## | 524 | 20100129 | -0.004919 | -0.010283 | -0.008187 | -0.009829 |
| ## | 525 | 20100201 | -0.052149 | 0.015088  | 0.011349  | 0.014266  |
| ## | 526 | 20100202 | -0.006309 | 0.012228  | 0.008665  | 0.012973  |
| ## | 527 | 20100203 | 0.008297  | -0.004967 | -0.003824 | -0.005474 |
| ## | 528 | 20100204 | -0.026532 | -0.031958 | -0.028128 | -0.031141 |
| ## | 529 | 20100205 | 0.012506  | 0.002662  | 0.000458  | 0.002897  |
| ## | 530 | 20100208 | -0.004770 | -0.008230 | -0.005335 | -0.008863 |
| ## | 531 | 20100209 | 0.010271  | 0.013882  | 0.011905  | 0.013040  |
| ## | 532 | 20100210 | -0.005677 | -0.001473 | 0.000019  | -0.002233 |
| ## | 533 | 20100211 | 0.023262  | 0.012092  | 0.012792  | 0.009680  |
| ## | 534 | 20100212 | -0.003581 | -0.000656 | 0.003123  | -0.002745 |
| ## | 535 | 20100216 | -0.017800 | 0.017967  | 0.014436  | 0.018001  |
| ## | 536 | 20100217 | -0.010380 | 0.004660  | 0.005052  | 0.004238  |
| ## | 537 | 20100218 | 0.015218  | 0.006188  | 0.004380  | 0.006585  |
| ## | 538 | 20100219 | -0.004743 | 0.002455  | 0.001960  | 0.002187  |
| ## | 539 | 20100222 | 0.004170  | -0.001113 | 0.001982  | -0.001046 |
| ## | 540 | 20100223 | -0.006525 | -0.013062 | -0.008435 | -0.012103 |
| ## | 541 | 20100224 | 0.021153  | 0.008521  | 0.005359  | 0.009720  |
| ## | 542 | 20100225 | -0.012696 | -0.000715 | -0.000977 | -0.002081 |
| ## | 543 | 20100226 | 0.001692  | 0.001850  | 0.001597  | 0.001405  |
| ## | 544 | 20100301 | 0.051858  | 0.011973  | 0.012952  | 0.010159  |
| ## | 545 | 20100302 | 0.007949  | 0.004407  | 0.007842  | 0.002330  |
| ## | 546 | 20100303 | 0.002868  | 0.001601  | 0.002859  | 0.000429  |
| ## | 547 | 20100304 | 0.020971  | 0.003093  | 0.004644  | 0.003736  |
| ## | 548 | 20100305 | 0.002957  | 0.014478  | 0.015175  | 0.014008  |
| ## | 549 | 20100308 | 0.009309  | 0.000734  | 0.003796  | -0.000176 |
| ## | 550 | 20100309 | -0.009915 | 0.001687  | 0.002511  | 0.001713  |
| ## | 551 | 20100310 | 0.013119  | 0.005053  | 0.006236  | 0.004525  |
| ## | 552 | 20100311 | 0.023523  | 0.003972  | 0.003270  | 0.004042  |
| ## | 553 | 20100312 | -0.013176 | 0.000743  | 0.000601  | -0.000217 |
| ## | 554 | 20100315 | -0.005234 | -0.000682 | -0.003177 | 0.000452  |
| ## | 555 | 20100316 | 0.005033  | 0.008741  | 0.007166  | 0.007779  |
| ## | 556 | 20100317 | -0.003415 | 0.005593  | 0.004720  | 0.005822  |
| ## | 557 | 20100318 | 0.010812  | -0.002025 | -0.002675 | -0.000326 |
| ## | 558 | 20100319 | -0.018153 | -0.006885 | -0.007943 | -0.005087 |
| ## | 559 | 20100322 | 0.000921  | 0.005856  | 0.006290  | 0.005095  |
| ## | 560 | 20100323 | -0.009274 | 0.007662  | 0.008460  | 0.007171  |
| ## | 561 | 20100324 | -0.009438 | -0.006607 | -0.005124 | -0.005493 |
| ## | 562 | 20100325 | 0.052249  | -0.002434 | -0.003449 | -0.001704 |
| ## | 563 | 20100326 | 0.002449  | 0.000645  | 0.000841  | 0.000738  |
| ## | 564 | 20100329 | 0.000444  | 0.006781  | 0.005704  | 0.005683  |
| ## | 565 | 20100330 | 0.010798  | 0.000455  | 0.001620  | 0.000043  |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 566 | 20100331 | -0.005923 | -0.002771 | -0.002941 | -0.003273 |
| ## 567 | 20100401 | -0.029167 | 0.008640  | 0.006961  | 0.007414  |
| ## 568 | 20100405 | -0.002428 | 0.009532  | 0.013157  | 0.007928  |
| ## 569 | 20100406 | 0.030953  | 0.002102  | 0.005226  | 0.001684  |
| ## 570 | 20100407 | -0.005090 | -0.005359 | -0.000953 | -0.005877 |
| ## 571 | 20100408 | 0.045155  | 0.002843  | 0.002693  | 0.003374  |
| ## 572 | 20100409 | -0.006385 | 0.006691  | 0.005845  | 0.006684  |
| ## 573 | 20100412 | 0.008139  | 0.001784  | 0.003880  | 0.001767  |
| ## 574 | 20100413 | -0.007365 | 0.000735  | 0.001568  | 0.000685  |
| ## 575 | 20100414 | 0.029395  | 0.012322  | 0.014968  | 0.011150  |
| ## 576 | 20100415 | 0.010674  | 0.000098  | 0.002761  | 0.000843  |
| ## 577 | 20100416 | -0.025024 | -0.016104 | -0.010972 | -0.016127 |
| ## 578 | 20100419 | 0.001822  | 0.002261  | -0.002911 | 0.004521  |
| ## 579 | 20100420 | 0.012427  | 0.009795  | 0.011963  | 0.008058  |
| ## 580 | 20100421 | 0.015465  | -0.000546 | 0.002920  | -0.001019 |
| ## 581 | 20100422 | 0.024995  | 0.003573  | 0.007550  | 0.002264  |
| ## 582 | 20100423 | -0.043041 | 0.007441  | 0.010052  | 0.007124  |
| ## 583 | 20100426 | 0.024229  | -0.003211 | 0.002661  | -0.004296 |
| ## 584 | 20100427 | -0.034600 | -0.023846 | -0.018843 | -0.023382 |
| ## 585 | 20100428 | -0.018800 | 0.005229  | 0.001557  | 0.006463  |
| ## 586 | 20100429 | 0.017079  | 0.013619  | 0.013165  | 0.012943  |
| ## 587 | 20100430 | -0.032668 | -0.016825 | -0.015029 | -0.016648 |
| ## 588 | 20100503 | 0.002845  | 0.012862  | 0.011350  | 0.013121  |
| ## 589 | 20100504 | -0.055713 | -0.025348 | -0.023949 | -0.023838 |
| ## 590 | 20100505 | 0.008473  | -0.009193 | -0.013607 | -0.006561 |
| ## 591 | 20100506 | -0.016956 | -0.032545 | -0.033685 | -0.032378 |
| ## 592 | 20100507 | -0.028980 | -0.015838 | -0.016989 | -0.015308 |
| ## 593 | 20100510 | 0.050488  | 0.044896  | 0.042804  | 0.043974  |
| ## 594 | 20100511 | -0.006322 | -0.000931 | 0.004202  | -0.003397 |
| ## 595 | 20100512 | 0.026138  | 0.016244  | 0.019124  | 0.013740  |
| ## 596 | 20100513 | -0.017928 | -0.010841 | -0.004875 | -0.012145 |
| ## 597 | 20100514 | -0.022340 | -0.019385 | -0.018568 | -0.018800 |
| ## 598 | 20100517 | 0.002933  | -0.000563 | -0.003146 | 0.001109  |
| ## 599 | 20100518 | -0.020402 | -0.013635 | -0.012871 | -0.014196 |
| ## 600 | 20100519 | -0.013383 | -0.007144 | -0.013290 | -0.005130 |
| ## 601 | 20100520 | -0.039168 | -0.040349 | -0.039086 | -0.038976 |
| ## 602 | 20100521 | 0.025144  | 0.015276  | 0.011578  | 0.015024  |
| ## 603 | 20100524 | -0.004889 | -0.012031 | -0.006556 | -0.012908 |
| ## 604 | 20100525 | 0.022437  | -0.000157 | -0.006476 | 0.000354  |
| ## 605 | 20100526 | -0.013215 | -0.002870 | 0.004575  | -0.005661 |
| ## 606 | 20100527 | 0.028326  | 0.035092  | 0.033655  | 0.032876  |
| ## 607 | 20100528 | -0.009787 | -0.011746 | -0.006630 | -0.012375 |
| ## 608 | 20100601 | -0.017695 | -0.018501 | -0.020678 | -0.017165 |
| ## 609 | 20100602 | 0.024911  | 0.026560  | 0.020297  | 0.025843  |
| ## 610 | 20100603 | 0.019397  | 0.004793  | 0.005511  | 0.004051  |
| ## 611 | 20100604 | -0.046521 | -0.035853 | -0.032259 | -0.034411 |
| ## 612 | 20100607 | -0.006190 | -0.014002 | -0.018182 | -0.013532 |
| ## 613 | 20100608 | -0.026022 | 0.009217  | -0.001221 | 0.010976  |
| ## 614 | 20100609 | -0.007784 | -0.003829 | -0.000242 | -0.005942 |
| ## 615 | 20100610 | 0.044949  | 0.029495  | 0.024915  | 0.029507  |
| ## 616 | 20100611 | -0.001461 | 0.006185  | 0.009444  | 0.004380  |
| ## 617 | 20100614 | 0.006503  | 0.000012  | 0.004188  | -0.001805 |
| ## 618 | 20100615 | 0.024307  | 0.023846  | 0.019397  | 0.023494  |
| ## 619 | 20100616 | 0.000473  | -0.001212 | -0.001970 | -0.000556 |

|        |          |           |           |           |           |
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| ## 620 | 20100617 | -0.007959 | 0.000908  | -0.000032 | 0.001283  |
| ## 621 | 20100618 | -0.000477 | 0.001705  | 0.002944  | 0.001317  |
| ## 622 | 20100621 | -0.026067 | -0.004316 | -0.006310 | -0.003857 |
| ## 623 | 20100622 | -0.001983 | -0.016132 | -0.013867 | -0.016071 |
| ## 624 | 20100623 | -0.007007 | -0.002925 | -0.001877 | -0.002985 |
| ## 625 | 20100624 | -0.025690 | -0.016249 | -0.012404 | -0.016803 |
| ## 626 | 20100625 | 0.022564  | 0.006049  | 0.010274  | 0.002859  |
| ## 627 | 20100628 | -0.026446 | -0.003124 | -0.004658 | -0.002034 |
| ## 628 | 20100629 | -0.078014 | -0.032886 | -0.031187 | -0.031017 |
| ## 629 | 20100630 | 0.005985  | -0.008951 | -0.005541 | -0.010113 |
| ## 630 | 20100701 | 0.015559  | -0.003937 | -0.007599 | -0.003240 |
| ## 631 | 20100702 | -0.016402 | -0.004746 | -0.004368 | -0.004662 |
| ## 632 | 20100706 | 0.008430  | 0.003311  | -0.006419 | 0.005359  |
| ## 633 | 20100707 | 0.030620  | 0.030875  | 0.021937  | 0.031331  |
| ## 634 | 20100708 | 0.024597  | 0.009558  | 0.010041  | 0.009413  |
| ## 635 | 20100709 | 0.008949  | 0.008900  | 0.011698  | 0.007204  |
| ## 636 | 20100712 | 0.019188  | -0.001339 | -0.005483 | 0.000733  |
| ## 637 | 20100713 | 0.034641  | 0.017184  | 0.021561  | 0.015379  |
| ## 638 | 20100714 | -0.002831 | -0.000638 | -0.001089 | -0.000155 |
| ## 639 | 20100715 | -0.010057 | 0.000420  | -0.003627 | 0.001196  |
| ## 640 | 20100716 | -0.029248 | -0.028522 | -0.024131 | -0.028820 |
| ## 641 | 20100719 | 0.012237  | 0.005000  | 0.003039  | 0.005982  |
| ## 642 | 20100720 | 0.001334  | 0.012630  | 0.011590  | 0.011417  |
| ## 643 | 20100721 | -0.022231 | -0.012841 | -0.009837 | -0.012820 |
| ## 644 | 20100722 | 0.022481  | 0.023554  | 0.023312  | 0.022513  |
| ## 645 | 20100723 | -0.009994 | 0.009626  | 0.013520  | 0.008220  |
| ## 646 | 20100726 | -0.003954 | 0.011607  | 0.013834  | 0.011200  |
| ## 647 | 20100727 | -0.010726 | -0.002526 | -0.002162 | -0.001049 |
| ## 648 | 20100728 | 0.000000  | -0.007460 | -0.007818 | -0.006922 |
| ## 649 | 20100729 | -0.002305 | -0.002607 | 0.000460  | -0.004159 |
| ## 650 | 20100730 | 0.008814  | 0.001520  | 0.003373  | 0.000064  |
| ## 651 | 20100802 | 0.018492  | 0.020544  | 0.013600  | 0.022023  |
| ## 652 | 20100803 | 0.019572  | -0.005140 | -0.004560 | -0.004796 |
| ## 653 | 20100804 | 0.042150  | 0.007461  | 0.007322  | 0.006051  |
| ## 654 | 20100805 | 0.001960  | -0.002492 | -0.004121 | -0.001269 |
| ## 655 | 20100806 | 0.003833  | -0.003544 | -0.002671 | -0.003704 |
| ## 656 | 20100809 | 0.003974  | 0.005842  | 0.006802  | 0.005483  |
| ## 657 | 20100810 | 0.009082  | -0.007991 | -0.011580 | -0.005967 |
| ## 658 | 20100811 | -0.031615 | -0.029200 | -0.028496 | -0.028179 |
| ## 659 | 20100812 | 0.005322  | -0.004668 | -0.003038 | -0.005379 |
| ## 660 | 20100813 | -0.014776 | -0.003873 | -0.004209 | -0.004024 |
| ## 661 | 20100816 | 0.011067  | 0.001450  | 0.003630  | 0.000120  |
| ## 662 | 20100817 | 0.022131  | 0.013884  | 0.012332  | 0.012192  |
| ## 663 | 20100818 | 0.006131  | 0.002325  | 0.001914  | 0.001483  |
| ## 664 | 20100819 | -0.016043 | -0.016702 | -0.016574 | -0.016935 |
| ## 665 | 20100820 | 0.001489  | -0.003310 | -0.001642 | -0.003663 |
| ## 666 | 20100823 | -0.009080 | -0.004849 | -0.008724 | -0.004040 |
| ## 667 | 20100824 | -0.016351 | -0.014430 | -0.011864 | -0.014512 |
| ## 668 | 20100825 | 0.018630  | 0.004572  | 0.005698  | 0.003289  |
| ## 669 | 20100826 | -0.015688 | -0.006641 | -0.004949 | -0.007685 |
| ## 670 | 20100827 | 0.014256  | 0.018436  | 0.018576  | 0.016587  |
| ## 671 | 20100830 | -0.022505 | -0.014211 | -0.013772 | -0.014719 |
| ## 672 | 20100831 | 0.008401  | 0.000133  | 0.000360  | 0.000391  |
| ## 673 | 20100901 | 0.061363  | 0.029083  | 0.024891  | 0.029505  |

|        |          |           |           |           |           |
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| ## 674 | 20100902 | 0.020530  | 0.009531  | 0.008299  | 0.009081  |
| ## 675 | 20100903 | 0.026477  | 0.012970  | 0.011735  | 0.013219  |
| ## 676 | 20100907 | -0.011312 | -0.011857 | -0.012413 | -0.011471 |
| ## 677 | 20100908 | 0.013992  | 0.006322  | 0.006096  | 0.006439  |
| ## 678 | 20100909 | 0.008912  | 0.003759  | 0.002373  | 0.004832  |
| ## 679 | 20100910 | 0.014674  | 0.004483  | 0.004082  | 0.004863  |
| ## 680 | 20100913 | 0.018464  | 0.012854  | 0.015681  | 0.011131  |
| ## 681 | 20100914 | 0.004687  | -0.000108 | -0.000765 | -0.000713 |
| ## 682 | 20100915 | -0.002058 | 0.002958  | 0.001406  | 0.003541  |
| ## 683 | 20100916 | 0.018426  | -0.000756 | -0.002686 | -0.000364 |
| ## 684 | 20100917 | 0.001316  | 0.001132  | 0.003139  | 0.000827  |
| ## 685 | 20100920 | 0.020090  | 0.015165  | 0.017201  | 0.015210  |
| ## 686 | 20100921 | -0.003799 | -0.003097 | -0.002994 | -0.002564 |
| ## 687 | 20100922 | 0.007298  | -0.005024 | -0.005267 | -0.004825 |
| ## 688 | 20100923 | 0.006718  | -0.008098 | -0.006134 | -0.008331 |
| ## 689 | 20100924 | 0.051554  | 0.021174  | 0.020093  | 0.021194  |
| ## 690 | 20100927 | -0.008461 | -0.004456 | -0.001493 | -0.005667 |
| ## 691 | 20100928 | 0.002071  | 0.005781  | 0.007404  | 0.004850  |
| ## 692 | 20100929 | -0.004446 | -0.001081 | 0.002015  | -0.002588 |
| ## 693 | 20100930 | -0.012139 | -0.001993 | 0.001188  | -0.003084 |
| ## 694 | 20101001 | -0.021329 | 0.004938  | 0.004502  | 0.004416  |
| ## 695 | 20101004 | 0.010930  | -0.008282 | -0.009036 | -0.008035 |
| ## 696 | 20101005 | 0.035266  | 0.020549  | 0.018548  | 0.020861  |
| ## 697 | 20101006 | -0.034003 | -0.000341 | -0.000477 | -0.000672 |
| ## 698 | 20101007 | 0.005599  | -0.002127 | -0.001648 | -0.001647 |
| ## 699 | 20101008 | -0.004607 | 0.007606  | 0.009939  | 0.006122  |
| ## 700 | 20101011 | -0.016201 | 0.000551  | 0.001862  | 0.000146  |
| ## 701 | 20101012 | 0.022545  | 0.003649  | 0.003780  | 0.003819  |
| ## 702 | 20101013 | -0.008372 | 0.008782  | 0.011164  | 0.007121  |
| ## 703 | 20101014 | 0.002320  | -0.003667 | -0.001723 | -0.003641 |
| ## 704 | 20101015 | 0.058574  | 0.000698  | -0.000574 | 0.002028  |
| ## 705 | 20101018 | -0.006560 | 0.006290  | 0.005744  | 0.007244  |
| ## 706 | 20101019 | -0.029897 | -0.017199 | -0.016739 | -0.015877 |
| ## 707 | 20101020 | 0.000000  | 0.011258  | 0.010230  | 0.010524  |
| ## 708 | 20101021 | 0.039705  | 0.000277  | -0.003003 | 0.001774  |
| ## 709 | 20101022 | 0.025217  | 0.002655  | 0.005055  | 0.002389  |
| ## 710 | 20101025 | -0.000769 | 0.003727  | 0.005167  | 0.002147  |
| ## 711 | 20101026 | 0.005621  | -0.000427 | 0.000521  | 0.000017  |
| ## 712 | 20101027 | -0.014357 | -0.003318 | -0.004156 | -0.002691 |
| ## 713 | 20101028 | -0.004000 | 0.001149  | -0.000824 | 0.001125  |
| ## 714 | 20101029 | -0.009650 | 0.001653  | 0.003556  | -0.000439 |
| ## 715 | 20101101 | -0.016038 | 0.000149  | -0.003474 | 0.000947  |
| ## 716 | 20101102 | 0.012486  | 0.009040  | 0.011684  | 0.007759  |
| ## 717 | 20101103 | 0.023449  | 0.003443  | 0.002305  | 0.003678  |
| ## 718 | 20101104 | 0.002730  | 0.019912  | 0.017268  | 0.019283  |
| ## 719 | 20101105 | 0.010892  | 0.004012  | 0.004517  | 0.003923  |
| ## 720 | 20101108 | 0.007144  | -0.000900 | 0.002147  | -0.002121 |
| ## 721 | 20101109 | -0.010001 | -0.008479 | -0.009232 | -0.008052 |
| ## 722 | 20101110 | 0.017971  | 0.005431  | 0.005925  | 0.004376  |
| ## 723 | 20101111 | -0.017077 | -0.003616 | -0.004410 | -0.004242 |
| ## 724 | 20101112 | -0.027528 | -0.013381 | -0.012531 | -0.011808 |
| ## 725 | 20101115 | -0.040922 | -0.001280 | -0.001310 | -0.001217 |
| ## 726 | 20101116 | -0.007048 | -0.016842 | -0.016710 | -0.016205 |
| ## 727 | 20101117 | 0.003613  | 0.001621  | 0.002860  | 0.000212  |

|    |     |          |           |           |           |           |
|----|-----|----------|-----------|-----------|-----------|-----------|
| ## | 728 | 20101118 | 0.036754  | 0.015550  | 0.012539  | 0.015357  |
| ## | 729 | 20101119 | 0.003959  | 0.003732  | 0.003861  | 0.002540  |
| ## | 730 | 20101122 | 0.033794  | -0.000274 | 0.001011  | -0.001575 |
| ## | 731 | 20101123 | -0.012853 | -0.014125 | -0.010221 | -0.014284 |
| ## | 732 | 20101124 | 0.053805  | 0.015676  | 0.014312  | 0.014923  |
| ## | 733 | 20101126 | 0.001410  | -0.006878 | -0.002554 | -0.007469 |
| ## | 734 | 20101129 | 0.011211  | -0.000910 | -0.000616 | -0.001379 |
| ## | 735 | 20101130 | -0.022787 | -0.005788 | -0.005344 | -0.006070 |
| ## | 736 | 20101201 | 0.006556  | 0.020811  | 0.013234  | 0.021617  |
| ## | 737 | 20101202 | -0.000113 | 0.012216  | 0.008935  | 0.012818  |
| ## | 738 | 20101203 | -0.004815 | 0.003956  | 0.005105  | 0.002603  |
| ## | 739 | 20101206 | 0.013490  | 0.000028  | 0.002990  | -0.001298 |
| ## | 740 | 20101207 | -0.007189 | 0.000185  | 0.000215  | 0.000515  |
| ## | 741 | 20101208 | -0.002715 | 0.001546  | -0.001006 | 0.003702  |
| ## | 742 | 20101209 | -0.008168 | 0.003571  | 0.003490  | 0.003843  |
| ## | 743 | 20101210 | 0.004404  | 0.006423  | 0.006814  | 0.006002  |
| ## | 744 | 20101213 | -0.007801 | 0.000187  | -0.001501 | 0.000048  |
| ## | 745 | 20101214 | -0.001779 | 0.000282  | -0.001453 | 0.000911  |
| ## | 746 | 20101215 | 0.009371  | -0.005249 | -0.004134 | -0.005122 |
| ## | 747 | 20101216 | 0.014068  | 0.005846  | 0.007882  | 0.006185  |
| ## | 748 | 20101217 | -0.002584 | 0.001562  | 0.003671  | 0.000837  |
| ## | 749 | 20101220 | 0.032154  | 0.001820  | 0.000710  | 0.002548  |
| ## | 750 | 20101221 | 0.007966  | 0.007181  | 0.008653  | 0.006030  |
| ## | 751 | 20101222 | 0.000054  | 0.003139  | 0.003301  | 0.003380  |
| ## | 752 | 20101223 | -0.011745 | -0.001190 | 0.000389  | -0.001644 |
| ## | 753 | 20101227 | -0.002465 | 0.000674  | 0.003479  | 0.000613  |
| ## | 754 | 20101228 | -0.005765 | 0.000791  | -0.000230 | 0.000771  |
| ## | 755 | 20101229 | 0.012590  | 0.002731  | 0.004116  | 0.001009  |
| ## | 756 | 20101230 | -0.003381 | -0.000805 | 0.001308  | -0.001508 |
| ## | 757 | 20101231 | -0.015048 | -0.000238 | 0.000871  | -0.000191 |
| ## | 758 | 20110103 | 0.023444  | 0.011205  | 0.012533  | 0.011315  |
| ## | 759 | 20110104 | 0.004288  | -0.003887 | -0.006753 | -0.001313 |
| ## | 760 | 20110105 | 0.013026  | 0.005375  | 0.007944  | 0.005007  |
| ## | 761 | 20110106 | -0.008324 | -0.002518 | -0.001211 | -0.002123 |
| ## | 762 | 20110107 | -0.001991 | -0.001947 | -0.002848 | -0.001845 |
| ## | 763 | 20110110 | -0.004367 | -0.000719 | 0.002287  | -0.001376 |
| ## | 764 | 20110111 | -0.001841 | 0.005025  | 0.005963  | 0.003725  |
| ## | 765 | 20110112 | -0.001410 | 0.009020  | 0.008259  | 0.009008  |
| ## | 766 | 20110113 | 0.007877  | -0.001887 | -0.000500 | -0.001711 |
| ## | 767 | 20110114 | 0.017356  | 0.006638  | 0.004736  | 0.007385  |
| ## | 768 | 20110118 | 0.013245  | 0.002164  | 0.002518  | 0.001376  |
| ## | 769 | 20110119 | -0.022902 | -0.012229 | -0.016081 | -0.010116 |
| ## | 770 | 20110120 | -0.026275 | -0.003821 | -0.007600 | -0.001295 |
| ## | 771 | 20110121 | -0.024951 | 0.001268  | -0.000137 | 0.002414  |
| ## | 772 | 20110124 | -0.003213 | 0.006284  | 0.006046  | 0.005836  |
| ## | 773 | 20110125 | -0.000848 | -0.000435 | -0.001076 | 0.000263  |
| ## | 774 | 20110126 | -0.007414 | 0.007331  | 0.011708  | 0.004221  |
| ## | 775 | 20110127 | 0.051656  | 0.002122  | 0.001653  | 0.002244  |
| ## | 776 | 20110128 | -0.072160 | -0.017211 | -0.017784 | -0.017852 |
| ## | 777 | 20110131 | -0.008765 | 0.007621  | 0.005212  | 0.007663  |
| ## | 778 | 20110201 | 0.014560  | 0.017011  | 0.014753  | 0.016694  |
| ## | 779 | 20110202 | 0.008251  | -0.002218 | -0.000556 | -0.002723 |
| ## | 780 | 20110203 | 0.001037  | 0.002926  | 0.001939  | 0.002354  |
| ## | 781 | 20110204 | 0.012780  | 0.002168  | 0.001326  | 0.002884  |

|        |          |           |           |           |           |
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| ## 782 | 20110207 | 0.002842  | 0.006122  | 0.006745  | 0.006240  |
| ## 783 | 20110208 | 0.037579  | 0.004563  | 0.003895  | 0.004185  |
| ## 784 | 20110209 | 0.012236  | -0.003429 | -0.003610 | -0.002786 |
| ## 785 | 20110210 | 0.004911  | 0.001331  | 0.000472  | 0.000750  |
| ## 786 | 20110211 | 0.016326  | 0.006107  | 0.006629  | 0.005507  |
| ## 787 | 20110214 | 0.006182  | 0.003390  | 0.003197  | 0.002385  |
| ## 788 | 20110215 | -0.007300 | -0.003185 | -0.003015 | -0.003235 |
| ## 789 | 20110216 | -0.012749 | 0.007512  | 0.006352  | 0.006257  |
| ## 790 | 20110217 | 0.006109  | 0.003948  | 0.005617  | 0.003076  |
| ## 791 | 20110218 | -0.006711 | 0.001228  | 0.001088  | 0.001925  |
| ## 792 | 20110222 | -0.032601 | -0.021038 | -0.020645 | -0.020529 |
| ## 793 | 20110223 | -0.020729 | -0.006545 | -0.008481 | -0.006112 |
| ## 794 | 20110224 | 0.006056  | -0.000131 | 0.002655  | -0.000994 |
| ## 795 | 20110225 | -0.002869 | 0.012918  | 0.015057  | 0.010550  |
| ## 796 | 20110228 | -0.022286 | 0.005333  | 0.002853  | 0.005561  |
| ## 797 | 20110301 | -0.022217 | -0.014888 | -0.011157 | -0.015740 |
| ## 798 | 20110302 | 0.015227  | 0.002832  | 0.002967  | 0.001615  |
| ## 799 | 20110303 | 0.004476  | 0.016077  | 0.013356  | 0.017219  |
| ## 800 | 20110304 | -0.006482 | -0.005890 | -0.003337 | -0.007378 |
| ## 801 | 20110307 | -0.015087 | -0.009402 | -0.009718 | -0.008341 |
| ## 802 | 20110308 | -0.012952 | 0.008078  | 0.008947  | 0.008923  |
| ## 803 | 20110309 | 0.012943  | -0.002440 | -0.003092 | -0.001362 |
| ## 804 | 20110310 | -0.017214 | -0.019775 | -0.019528 | -0.018871 |
| ## 805 | 20110311 | 0.011617  | 0.006951  | 0.002937  | 0.007080  |
| ## 806 | 20110314 | -0.007973 | -0.005471 | -0.006664 | -0.006049 |
| ## 807 | 20110315 | -0.009896 | -0.011139 | -0.010769 | -0.011200 |
| ## 808 | 20110316 | -0.002302 | -0.016629 | -0.010119 | -0.019495 |
| ## 809 | 20110317 | -0.022647 | 0.012210  | 0.007240  | 0.013398  |
| ## 810 | 20110318 | 0.005281  | 0.004854  | 0.008049  | 0.004302  |
| ## 811 | 20110321 | 0.016716  | 0.016433  | 0.015753  | 0.014994  |
| ## 812 | 20110322 | -0.011700 | -0.003236 | -0.001224 | -0.003551 |
| ## 813 | 20110323 | 0.016728  | 0.002868  | 0.002902  | 0.002914  |
| ## 814 | 20110324 | 0.034962  | 0.008543  | 0.005814  | 0.009341  |
| ## 815 | 20110325 | -0.000701 | 0.003131  | 0.003927  | 0.003161  |
| ## 816 | 20110328 | -0.009533 | -0.003323 | -0.001792 | -0.002748 |
| ## 817 | 20110329 | 0.031119  | 0.007159  | 0.005545  | 0.007060  |
| ## 818 | 20110330 | 0.027488  | 0.008219  | 0.007886  | 0.006685  |
| ## 819 | 20110331 | 0.003957  | -0.000603 | 0.002407  | -0.001829 |
| ## 820 | 20110401 | 0.000000  | 0.005456  | 0.003529  | 0.004963  |
| ## 821 | 20110404 | 0.015600  | 0.001175  | 0.000958  | 0.000345  |
| ## 822 | 20110405 | 0.012846  | 0.001333  | 0.001920  | -0.000180 |
| ## 823 | 20110406 | -0.013654 | 0.001730  | 0.002638  | 0.002184  |
| ## 824 | 20110407 | 0.011764  | -0.002256 | -0.002513 | -0.001520 |
| ## 825 | 20110408 | -0.001082 | -0.003388 | -0.004745 | -0.004004 |
| ## 826 | 20110411 | -0.003627 | -0.004720 | -0.006491 | -0.002793 |
| ## 827 | 20110412 | -0.019344 | -0.009235 | -0.010338 | -0.007777 |
| ## 828 | 20110413 | 0.010029  | 0.001298  | 0.001645  | 0.000190  |
| ## 829 | 20110414 | -0.002578 | 0.000543  | 0.002637  | 0.000084  |
| ## 830 | 20110415 | -0.009955 | 0.003965  | 0.004948  | 0.003925  |
| ## 831 | 20110418 | -0.009277 | -0.011610 | -0.011487 | -0.011018 |
| ## 832 | 20110419 | 0.002692  | 0.005726  | 0.003512  | 0.005731  |
| ## 833 | 20110420 | 0.028241  | 0.014271  | 0.012661  | 0.013515  |
| ## 834 | 20110421 | 0.010986  | 0.005873  | 0.004946  | 0.005277  |
| ## 835 | 20110425 | -0.002528 | -0.001841 | -0.000562 | -0.001593 |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 836 | 20110426 | -0.016827 | 0.008138  | 0.005423  | 0.008980  |
| ## 837 | 20110427 | 0.078607  | 0.006167  | 0.005247  | 0.006250  |
| ## 838 | 20110428 | -0.007934 | 0.002938  | 0.001926  | 0.003555  |
| ## 839 | 20110429 | 0.003793  | 0.003117  | 0.003668  | 0.002301  |
| ## 840 | 20110502 | 0.027476  | -0.003565 | -0.006003 | -0.001753 |
| ## 841 | 20110503 | -0.013619 | -0.006642 | -0.009097 | -0.003379 |
| ## 842 | 20110504 | 0.007659  | -0.007961 | -0.008801 | -0.006855 |
| ## 843 | 20110505 | -0.014302 | -0.009445 | -0.006183 | -0.009070 |
| ## 844 | 20110506 | 0.002486  | 0.004605  | 0.004575  | 0.003820  |
| ## 845 | 20110509 | 0.016194  | 0.006144  | 0.006964  | 0.004544  |
| ## 846 | 20110510 | 0.015637  | 0.008469  | 0.009877  | 0.008074  |
| ## 847 | 20110511 | 0.002158  | -0.012233 | -0.011619 | -0.011111 |
| ## 848 | 20110512 | 0.008269  | 0.004028  | 0.004319  | 0.004895  |
| ## 849 | 20110513 | -0.017033 | -0.008902 | -0.009009 | -0.008067 |
| ## 850 | 20110516 | -0.049615 | -0.006952 | -0.010372 | -0.006204 |
| ## 851 | 20110517 | 0.011947  | -0.000633 | -0.004038 | -0.000369 |
| ## 852 | 20110518 | 0.011704  | 0.010736  | 0.010977  | 0.008804  |
| ## 853 | 20110519 | 0.008702  | 0.002342  | 0.000843  | 0.002178  |
| ## 854 | 20110520 | -0.000780 | -0.006785 | -0.004414 | -0.007688 |
| ## 855 | 20110523 | -0.012233 | -0.012997 | -0.013172 | -0.011926 |
| ## 856 | 20110524 | -0.015034 | -0.000394 | -0.001002 | -0.000827 |
| ## 857 | 20110525 | -0.005226 | 0.005075  | 0.005819  | 0.003183  |
| ## 858 | 20110526 | 0.014252  | 0.005325  | 0.007791  | 0.003953  |
| ## 859 | 20110527 | -0.004462 | 0.005110  | 0.006103  | 0.004081  |
| ## 860 | 20110531 | 0.013187  | 0.010286  | 0.009375  | 0.010593  |
| ## 861 | 20110601 | -0.021836 | -0.023067 | -0.019626 | -0.022785 |
| ## 862 | 20110602 | 0.006523  | -0.000633 | -0.000076 | -0.001225 |
| ## 863 | 20110603 | -0.027524 | -0.009285 | -0.009502 | -0.009734 |
| ## 864 | 20110606 | -0.013966 | -0.012437 | -0.013344 | -0.010760 |
| ## 865 | 20110607 | 0.010017  | 0.000266  | 0.001428  | -0.000956 |
| ## 866 | 20110608 | 0.002666  | -0.005965 | -0.010672 | -0.004187 |
| ## 867 | 20110609 | 0.008668  | 0.007465  | 0.005505  | 0.007378  |
| ## 868 | 20110610 | -0.016607 | -0.014078 | -0.011776 | -0.013980 |
| ## 869 | 20110613 | -0.001287 | -0.000914 | -0.005617 | 0.000669  |
| ## 870 | 20110614 | 0.019701  | 0.013859  | 0.014384  | 0.012612  |
| ## 871 | 20110615 | -0.020952 | -0.017293 | -0.014059 | -0.017432 |
| ## 872 | 20110616 | -0.012528 | -0.000112 | -0.000800 | 0.001754  |
| ## 873 | 20110617 | 0.014811  | 0.002157  | 0.001297  | 0.003045  |
| ## 874 | 20110620 | 0.007244  | 0.005339  | 0.002474  | 0.005395  |
| ## 875 | 20110621 | 0.034679  | 0.015895  | 0.016179  | 0.013423  |
| ## 876 | 20110622 | -0.013386 | -0.005477 | -0.003055 | -0.006468 |
| ## 877 | 20110623 | 0.013203  | -0.002580 | -0.000871 | -0.002828 |
| ## 878 | 20110624 | -0.008292 | -0.010571 | -0.002417 | -0.011726 |
| ## 879 | 20110627 | 0.045183  | 0.008068  | 0.005459  | 0.009184  |
| ## 880 | 20110628 | 0.005466  | 0.013696  | 0.010608  | 0.012944  |
| ## 881 | 20110629 | 0.009044  | 0.008714  | 0.004950  | 0.008283  |
| ## 882 | 20110630 | 0.001518  | 0.009706  | 0.008397  | 0.010119  |
| ## 883 | 20110701 | 0.024451  | 0.013471  | 0.010064  | 0.014410  |
| ## 884 | 20110705 | 0.017662  | -0.000020 | 0.000809  | -0.001336 |
| ## 885 | 20110706 | 0.004691  | 0.001148  | 0.002874  | 0.001002  |
| ## 886 | 20110707 | 0.011905  | 0.010618  | 0.011712  | 0.010454  |
| ## 887 | 20110708 | 0.007105  | -0.006331 | -0.004797 | -0.006961 |
| ## 888 | 20110711 | -0.026251 | -0.019341 | -0.016317 | -0.018090 |
| ## 889 | 20110712 | -0.006210 | -0.003808 | -0.002238 | -0.004434 |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 890 | 20110713 | 0.010747  | 0.005005  | 0.007494  | 0.003106  |
| ## 891 | 20110714 | -0.014614 | -0.008041 | -0.009534 | -0.006716 |
| ## 892 | 20110715 | 0.011836  | 0.006169  | 0.004226  | 0.005554  |
| ## 893 | 20110718 | -0.006295 | -0.009470 | -0.011054 | -0.008130 |
| ## 894 | 20110719 | 0.030870  | 0.016155  | 0.013523  | 0.016309  |
| ## 895 | 20110720 | -0.011511 | 0.000053  | 0.000967  | -0.000671 |
| ## 896 | 20110721 | -0.010856 | 0.012250  | 0.008889  | 0.013546  |
| ## 897 | 20110722 | 0.015525  | 0.001441  | 0.001586  | 0.000908  |
| ## 898 | 20110725 | -0.013994 | -0.006280 | -0.007887 | -0.005643 |
| ## 899 | 20110726 | 0.003232  | -0.004539 | -0.004068 | -0.004105 |
| ## 900 | 20110727 | 0.038930  | -0.021644 | -0.021094 | -0.020309 |
| ## 901 | 20110728 | 0.006211  | -0.002921 | -0.001403 | -0.003234 |
| ## 902 | 20110729 | -0.006163 | -0.005619 | -0.003052 | -0.006451 |
| ## 903 | 20110801 | -0.005393 | -0.003610 | -0.000879 | -0.004132 |
| ## 904 | 20110802 | -0.043467 | -0.025643 | -0.021078 | -0.025557 |
| ## 905 | 20110803 | -0.008219 | 0.004954  | 0.002260  | 0.005016  |
| ## 906 | 20110804 | -0.040389 | -0.050349 | -0.047411 | -0.047820 |
| ## 907 | 20110805 | 0.006055  | -0.004785 | -0.012547 | -0.000575 |
| ## 908 | 20110808 | -0.044401 | -0.068665 | -0.072385 | -0.066634 |
| ## 909 | 20110809 | 0.058802  | 0.051214  | 0.047193  | 0.047407  |
| ## 910 | 20110810 | -0.053440 | -0.038549 | -0.029835 | -0.044152 |
| ## 911 | 20110811 | 0.021790  | 0.045248  | 0.037437  | 0.046290  |
| ## 912 | 20110812 | 0.019863  | 0.004764  | 0.004185  | 0.005262  |
| ## 913 | 20110815 | 0.003213  | 0.022829  | 0.023020  | 0.021785  |
| ## 914 | 20110816 | -0.025967 | -0.010894 | -0.012918 | -0.009739 |
| ## 915 | 20110817 | -0.008853 | 0.000845  | 0.000679  | 0.000947  |
| ## 916 | 20110818 | -0.068443 | -0.045310 | -0.041324 | -0.044594 |
| ## 917 | 20110819 | -0.019669 | -0.015358 | -0.012201 | -0.015009 |
| ## 918 | 20110822 | -0.007768 | 0.000037  | -0.002608 | 0.000258  |
| ## 919 | 20110823 | 0.090177  | 0.033737  | 0.029031  | 0.034285  |
| ## 920 | 20110824 | 0.000930  | 0.011553  | 0.008018  | 0.013120  |
| ## 921 | 20110825 | -0.008775 | -0.015903 | -0.015381 | -0.015566 |
| ## 922 | 20110826 | 0.037702  | 0.016437  | 0.015544  | 0.015122  |
| ## 923 | 20110829 | 0.036433  | 0.029617  | 0.031522  | 0.028280  |
| ## 924 | 20110830 | 0.021256  | 0.003760  | 0.004724  | 0.002347  |
| ## 925 | 20110831 | 0.020434  | 0.005091  | 0.003022  | 0.004922  |
| ## 926 | 20110901 | -0.012498 | -0.012121 | -0.013773 | -0.011871 |
| ## 927 | 20110902 | -0.011951 | -0.024626 | -0.022464 | -0.025282 |
| ## 928 | 20110906 | 0.029429  | -0.008132 | -0.008986 | -0.007436 |
| ## 929 | 20110907 | 0.017208  | 0.029134  | 0.027153  | 0.028646  |
| ## 930 | 20110908 | -0.012005 | -0.010869 | -0.012275 | -0.010612 |
| ## 931 | 20110909 | -0.027018 | -0.026579 | -0.021056 | -0.026705 |
| ## 932 | 20110912 | 0.024457  | 0.004140  | -0.000416 | 0.006966  |
| ## 933 | 20110913 | 0.013714  | 0.010801  | 0.011949  | 0.009120  |
| ## 934 | 20110914 | 0.013848  | 0.012782  | 0.011742  | 0.013480  |
| ## 935 | 20110915 | 0.018915  | 0.015461  | 0.008819  | 0.017187  |
| ## 936 | 20110916 | 0.055208  | 0.003565  | 0.001512  | 0.005707  |
| ## 937 | 20110919 | 0.009987  | -0.010936 | -0.014296 | -0.009803 |
| ## 938 | 20110920 | -0.034921 | -0.004106 | -0.009079 | -0.001661 |
| ## 939 | 20110921 | -0.005916 | -0.029425 | -0.024666 | -0.029390 |
| ## 940 | 20110922 | -0.037262 | -0.034394 | -0.032856 | -0.031883 |
| ## 941 | 20110923 | 0.001702  | 0.005756  | 0.007256  | 0.006082  |
| ## 942 | 20110926 | 0.027906  | 0.021585  | 0.009890  | 0.023336  |
| ## 943 | 20110927 | -0.024538 | 0.012843  | 0.015741  | 0.010688  |

|        |          |           |           |           |           |
|--------|----------|-----------|-----------|-----------|-----------|
| ## 944 | 20110928 | 0.024531  | -0.023685 | -0.025358 | -0.020691 |
| ## 945 | 20110929 | -0.031649 | 0.008220  | 0.006639  | 0.008114  |
| ## 946 | 20110930 | -0.027918 | -0.024625 | -0.018836 | -0.024974 |
| ## 947 | 20111003 | -0.019655 | -0.031917 | -0.041273 | -0.028451 |
| ## 948 | 20111004 | 0.002453  | 0.023613  | 0.027309  | 0.022488  |
| ## 949 | 20111005 | 0.032932  | 0.019649  | 0.017119  | 0.017866  |
| ## 950 | 20111006 | 0.009166  | 0.020555  | 0.020344  | 0.018304  |
| ## 951 | 20111007 | 0.014582  | -0.010922 | -0.013551 | -0.008163 |
| ## 952 | 20111010 | 0.029278  | 0.034255  | 0.029485  | 0.034125  |
| ## 953 | 20111011 | 0.017984  | 0.001063  | 0.005101  | 0.000544  |
| ## 954 | 20111012 | 0.005648  | 0.011795  | 0.015322  | 0.009795  |
| ## 955 | 20111013 | -0.002787 | -0.002944 | -0.000734 | -0.002974 |
| ## 956 | 20111014 | 0.044717  | 0.017728  | 0.014655  | 0.017380  |
| ## 957 | 20111017 | -0.017754 | -0.020839 | -0.020291 | -0.019370 |
| ## 958 | 20111018 | 0.006396  | 0.020777  | 0.018461  | 0.020419  |
| ## 959 | 20111019 | -0.050640 | -0.014156 | -0.012744 | -0.012649 |
| ## 960 | 20111020 | 0.008984  | 0.003883  | 0.000394  | 0.004554  |
| ## 961 | 20111021 | 0.005008  | 0.019253  | 0.016331  | 0.018809  |
| ## 962 | 20111024 | 0.012054  | 0.016757  | 0.021869  | 0.012873  |
| ## 963 | 20111025 | -0.044022 | -0.019814 | -0.017915 | -0.020045 |
| ## 964 | 20111026 | -0.126568 | 0.011502  | 0.013134  | 0.010537  |
| ## 965 | 20111027 | 0.042238  | 0.036207  | 0.036277  | 0.034291  |
| ## 966 | 20111028 | 0.050972  | 0.000257  | 0.000381  | 0.000389  |
| ## 967 | 20111031 | -0.017532 | -0.024635 | -0.019053 | -0.024738 |
| ## 968 | 20111101 | -0.006580 | -0.028595 | -0.025533 | -0.027942 |
| ## 969 | 20111102 | 0.016572  | 0.017068  | 0.017888  | 0.016105  |
| ## 970 | 20111103 | 0.012383  | 0.019189  | 0.015892  | 0.018782  |
| ## 971 | 20111104 | -0.008292 | -0.005559 | -0.004275 | -0.006280 |
| ## 972 | 20111107 | 0.002402  | 0.004912  | 0.000138  | 0.006296  |
| ## 973 | 20111108 | 0.004562  | 0.011208  | 0.010416  | 0.011736  |
| ## 974 | 20111109 | -0.031056 | -0.037839 | -0.033587 | -0.036695 |
| ## 975 | 20111110 | -0.002036 | 0.007420  | 0.004584  | 0.008616  |
| ## 976 | 20111111 | 0.031311  | 0.019766  | 0.016413  | 0.019489  |
| ## 977 | 20111114 | 0.007084  | -0.009368 | -0.011208 | -0.009550 |
| ## 978 | 20111115 | -0.005024 | 0.004529  | 0.005085  | 0.004817  |
| ## 979 | 20111116 | -0.026810 | -0.015088 | -0.010399 | -0.016616 |
| ## 980 | 20111117 | -0.035238 | -0.017202 | -0.013523 | -0.016800 |
| ## 981 | 20111118 | -0.036085 | -0.000294 | 0.000960  | -0.000395 |
| ## 982 | 20111121 | -0.040022 | -0.018646 | -0.019135 | -0.018648 |
| ## 983 | 20111122 | 0.016328  | -0.003934 | -0.004842 | -0.004141 |
| ## 984 | 20111123 | -0.017417 | -0.023237 | -0.022580 | -0.022095 |
| ## 985 | 20111125 | -0.034875 | -0.003631 | -0.004910 | -0.002686 |
| ## 986 | 20111128 | 0.064425  | 0.030509  | 0.027928  | 0.029240  |
| ## 987 | 20111129 | -0.029668 | 0.002265  | -0.002146 | 0.002214  |
| ## 988 | 20111130 | 0.020702  | 0.043874  | 0.038155  | 0.043315  |
| ## 989 | 20111201 | 0.025170  | -0.002276 | -0.003635 | -0.001909 |
| ## 990 | 20111202 | -0.005580 | 0.000098  | 0.004885  | -0.000241 |
| ## 991 | 20111205 | 0.001071  | 0.010293  | 0.009664  | 0.010287  |
| ## 992 | 20111206 | -0.021657 | 0.000387  | -0.000491 | 0.001106  |
| ## 993 | 20111207 | 0.017345  | 0.001911  | 0.000724  | 0.002018  |
| ## 994 | 20111208 | -0.024780 | -0.022862 | -0.022706 | -0.021142 |
| ## 995 | 20111209 | 0.013387  | 0.017731  | 0.018907  | 0.016883  |
| ## 996 | 20111212 | -0.018184 | -0.015541 | -0.013563 | -0.014914 |
| ## 997 | 20111213 | -0.047541 | -0.011233 | -0.012526 | -0.008686 |

|    |      |          |           |           |           |           |
|----|------|----------|-----------|-----------|-----------|-----------|
| ## | 998  | 20111214 | -0.001662 | -0.012734 | -0.009141 | -0.011348 |
| ## | 999  | 20111215 | 0.005826  | 0.003745  | 0.002503  | 0.003243  |
| ## | 1000 | 20111216 | 0.000000  | 0.004961  | 0.003603  | 0.003216  |
| ## | 1001 | 20111219 | -0.010648 | -0.012648 | -0.014677 | -0.011733 |
| ## | 1002 | 20111220 | 0.017788  | 0.030026  | 0.026932  | 0.029825  |
| ## | 1003 | 20111221 | -0.044762 | 0.002018  | 0.001410  | 0.001950  |
| ## | 1004 | 20111222 | 0.026843  | 0.008911  | 0.008202  | 0.008266  |
| ## | 1005 | 20111223 | -0.009775 | 0.007860  | 0.004194  | 0.009035  |
| ## | 1006 | 20111227 | -0.005697 | 0.000018  | -0.000984 | 0.000079  |
| ## | 1007 | 20111228 | -0.013502 | -0.013637 | -0.013522 | -0.012478 |
| ## | 1008 | 20111229 | -0.000173 | 0.010772  | 0.008718  | 0.010707  |
| ## | 1009 | 20111230 | -0.004371 | -0.002582 | 0.002144  | -0.004291 |
| ## | 1010 | 20120103 | 0.034258  | 0.016152  | 0.017012  | 0.015474  |
| ## | 1011 | 20120104 | -0.008490 | -0.000447 | -0.001380 | 0.000188  |
| ## | 1012 | 20120105 | 0.000563  | 0.002928  | 0.004055  | 0.002944  |
| ## | 1013 | 20120106 | 0.028152  | -0.002907 | -0.000598 | -0.002537 |
| ## | 1014 | 20120109 | -0.022178 | 0.002814  | 0.004418  | 0.002262  |
| ## | 1015 | 20120110 | 0.004368  | 0.010420  | 0.011110  | 0.008886  |
| ## | 1016 | 20120111 | -0.002453 | 0.000951  | 0.004571  | 0.000310  |
| ## | 1017 | 20120112 | -0.016601 | 0.003046  | 0.005077  | 0.002337  |
| ## | 1018 | 20120113 | 0.014153  | -0.005312 | -0.005005 | -0.004948 |
| ## | 1019 | 20120117 | 0.018159  | 0.003904  | 0.003767  | 0.003553  |
| ## | 1020 | 20120118 | 0.042827  | 0.012297  | 0.013701  | 0.011108  |
| ## | 1021 | 20120119 | 0.026446  | 0.005580  | 0.005448  | 0.004939  |
| ## | 1022 | 20120120 | -0.018102 | 0.000881  | 0.003698  | 0.000669  |
| ## | 1023 | 20120123 | -0.025350 | 0.001606  | 0.001857  | 0.000471  |
| ## | 1024 | 20120124 | 0.004890  | -0.000804 | 0.003348  | -0.001026 |
| ## | 1025 | 20120125 | 0.004278  | 0.009956  | 0.009547  | 0.008672  |
| ## | 1026 | 20120126 | 0.029372  | -0.004906 | -0.001075 | -0.005746 |
| ## | 1027 | 20120127 | 0.010625  | 0.000698  | 0.006150  | -0.001593 |
| ## | 1028 | 20120130 | -0.016482 | -0.003724 | -0.004826 | -0.002522 |
| ## | 1029 | 20120131 | 0.011918  | -0.000076 | 0.001781  | -0.000457 |
| ## | 1030 | 20120201 | -0.077042 | 0.011173  | 0.013730  | 0.008900  |
| ## | 1031 | 20120202 | 0.012593  | 0.001838  | 0.004402  | 0.001095  |
| ## | 1032 | 20120203 | 0.032798  | 0.014664  | 0.014936  | 0.014605  |
| ## | 1033 | 20120206 | -0.024190 | -0.000988 | -0.000431 | -0.000424 |
| ## | 1034 | 20120207 | 0.005733  | 0.001391  | 0.001486  | 0.002023  |
| ## | 1035 | 20120208 | 0.007004  | 0.002189  | 0.003480  | 0.002160  |
| ## | 1036 | 20120209 | -0.002696 | 0.001002  | 0.000374  | 0.001474  |
| ## | 1037 | 20120210 | 0.003027  | -0.008383 | -0.009773 | -0.006886 |
| ## | 1038 | 20120213 | 0.032608  | 0.007439  | 0.009485  | 0.006800  |
| ## | 1039 | 20120214 | -0.001514 | -0.001546 | -0.004058 | -0.000940 |
| ## | 1040 | 20120215 | -0.035703 | -0.004224 | -0.003162 | -0.005383 |
| ## | 1041 | 20120216 | -0.024611 | 0.012461  | 0.011497  | 0.011026  |
| ## | 1042 | 20120217 | 0.014283  | 0.001387  | 0.002727  | 0.002349  |
| ## | 1043 | 20120221 | -0.001315 | 0.000152  | -0.002241 | 0.000720  |
| ## | 1044 | 20120222 | -0.009218 | -0.003127 | -0.004190 | -0.003340 |
| ## | 1045 | 20120223 | -0.009359 | 0.005699  | 0.008054  | 0.004272  |
| ## | 1046 | 20120224 | 0.001342  | 0.001495  | 0.000411  | 0.001672  |
| ## | 1047 | 20120227 | -0.003350 | 0.000818  | -0.000761 | 0.001355  |
| ## | 1048 | 20120228 | 0.029519  | 0.002910  | 0.000562  | 0.003356  |
| ## | 1049 | 20120229 | -0.022361 | -0.005676 | -0.009158 | -0.004737 |
| ## | 1050 | 20120301 | 0.001948  | 0.006806  | 0.004670  | 0.006158  |
| ## | 1051 | 20120302 | -0.004110 | -0.004921 | -0.008031 | -0.003246 |

|    |      |          |           |           |           |           |
|----|------|----------|-----------|-----------|-----------|-----------|
| ## | 1052 | 20120305 | 0.005354  | -0.004551 | -0.003539 | -0.003870 |
| ## | 1053 | 20120306 | 0.004604  | -0.017379 | -0.017306 | -0.015370 |
| ## | 1054 | 20120307 | 0.014799  | 0.007942  | 0.009483  | 0.006901  |
| ## | 1055 | 20120308 | 0.021059  | 0.010859  | 0.010692  | 0.009818  |
| ## | 1056 | 20120309 | -0.017693 | 0.004495  | 0.007768  | 0.003631  |
| ## | 1057 | 20120312 | -0.005046 | -0.001367 | -0.001611 | 0.000160  |
| ## | 1058 | 20120313 | 0.006543  | 0.017606  | 0.014480  | 0.018132  |
| ## | 1059 | 20120314 | -0.012623 | -0.003915 | -0.006757 | -0.001196 |
| ## | 1060 | 20120315 | 0.011906  | 0.006515  | 0.004869  | 0.005967  |
| ## | 1061 | 20120316 | 0.003362  | 0.001337  | 0.001369  | 0.001119  |
| ## | 1062 | 20120319 | 0.002540  | 0.003999  | 0.004746  | 0.003974  |
| ## | 1063 | 20120320 | 0.036708  | -0.004507 | -0.005338 | -0.003001 |
| ## | 1064 | 20120321 | -0.003120 | -0.001121 | 0.001131  | -0.001871 |
| ## | 1065 | 20120322 | 0.003494  | -0.008106 | -0.008249 | -0.007207 |
| ## | 1066 | 20120323 | 0.013721  | 0.004475  | 0.007160  | 0.003109  |
| ## | 1067 | 20120326 | 0.040146  | 0.013962  | 0.011392  | 0.013886  |
| ## | 1068 | 20120327 | 0.012668  | -0.003657 | -0.002860 | -0.002817 |
| ## | 1069 | 20120328 | -0.020833 | -0.005516 | -0.005416 | -0.004942 |
| ## | 1070 | 20120329 | 0.017151  | -0.001898 | -0.001653 | -0.001608 |
| ## | 1071 | 20120330 | -0.010263 | 0.003351  | 0.002024  | 0.003698  |
| ## | 1072 | 20120402 | -0.022024 | 0.008052  | 0.007351  | 0.007505  |
| ## | 1073 | 20120403 | 0.008129  | -0.004442 | -0.006565 | -0.003989 |
| ## | 1074 | 20120404 | -0.028398 | -0.011808 | -0.011965 | -0.010202 |
| ## | 1075 | 20120405 | 0.002062  | -0.000796 | -0.000687 | -0.000629 |
| ## | 1076 | 20120409 | -0.012964 | -0.011361 | -0.011932 | -0.011358 |
| ## | 1077 | 20120410 | -0.025486 | -0.018010 | -0.016253 | -0.017081 |
| ## | 1078 | 20120411 | 0.005295  | 0.008515  | 0.011544  | 0.007449  |
| ## | 1079 | 20120412 | 0.014470  | 0.015078  | 0.013034  | 0.013779  |
| ## | 1080 | 20120413 | -0.011694 | -0.012386 | -0.010668 | -0.012475 |
| ## | 1081 | 20120416 | -0.015706 | -0.000586 | -0.000035 | -0.000504 |
| ## | 1082 | 20120417 | 0.015580  | 0.014946  | 0.010763  | 0.015487  |
| ## | 1083 | 20120418 | 0.014226  | -0.004029 | -0.006151 | -0.004055 |
| ## | 1084 | 20120419 | 0.000157  | -0.004659 | -0.002353 | -0.005934 |
| ## | 1085 | 20120420 | -0.005861 | 0.001629  | 0.003792  | 0.001169  |
| ## | 1086 | 20120423 | -0.009159 | -0.009527 | -0.009771 | -0.008408 |
| ## | 1087 | 20120424 | 0.011103  | 0.003250  | 0.005771  | 0.003680  |
| ## | 1088 | 20120425 | 0.021489  | 0.013822  | 0.010281  | 0.013645  |
| ## | 1089 | 20120426 | 0.008075  | 0.006806  | 0.005776  | 0.006680  |
| ## | 1090 | 20120427 | 0.157457  | 0.003897  | 0.005274  | 0.002414  |
| ## | 1091 | 20120430 | 0.022261  | -0.004314 | -0.004072 | -0.003884 |
| ## | 1092 | 20120501 | -0.008021 | 0.004870  | 0.001691  | 0.005658  |
| ## | 1093 | 20120502 | 0.000913  | -0.002036 | -0.000501 | -0.002497 |
| ## | 1094 | 20120503 | -0.003474 | -0.009943 | -0.010855 | -0.007659 |
| ## | 1095 | 20120504 | -0.023796 | -0.015666 | -0.012679 | -0.016147 |
| ## | 1096 | 20120507 | 0.005223  | 0.000556  | 0.001085  | 0.000351  |
| ## | 1097 | 20120508 | -0.005596 | -0.005348 | -0.004437 | -0.004279 |
| ## | 1098 | 20120509 | -0.004109 | -0.006016 | -0.004077 | -0.006702 |
| ## | 1099 | 20120510 | 0.016638  | 0.002870  | 0.002588  | 0.002517  |
| ## | 1100 | 20120511 | 0.004367  | -0.002779 | -0.003641 | -0.003387 |
| ## | 1101 | 20120514 | -0.020863 | -0.012160 | -0.012421 | -0.011113 |
| ## | 1102 | 20120515 | 0.006549  | -0.006029 | -0.006528 | -0.005746 |
| ## | 1103 | 20120516 | -0.001471 | -0.004927 | -0.007807 | -0.004404 |
| ## | 1104 | 20120517 | -0.025440 | -0.015843 | -0.015911 | -0.015051 |
| ## | 1105 | 20120518 | -0.020654 | -0.008140 | -0.009673 | -0.007388 |

|    |      |          |           |           |           |           |
|----|------|----------|-----------|-----------|-----------|-----------|
| ## | 1106 | 20120521 | 0.019920  | 0.017751  | 0.016319  | 0.016036  |
| ## | 1107 | 20120522 | -0.012746 | -0.000470 | -0.004011 | 0.000486  |
| ## | 1108 | 20120523 | 0.009056  | 0.002796  | 0.002394  | 0.001694  |
| ## | 1109 | 20120524 | -0.009389 | 0.001002  | 0.001696  | 0.001380  |
| ## | 1110 | 20120525 | -0.010918 | -0.001539 | 0.001210  | -0.002166 |
| ## | 1111 | 20120529 | 0.008737  | 0.011224  | 0.009963  | 0.011079  |
| ## | 1112 | 20120530 | -0.025704 | -0.015482 | -0.014326 | -0.014335 |
| ## | 1113 | 20120531 | 0.017588  | -0.001964 | -0.000487 | -0.002277 |
| ## | 1114 | 20120601 | -0.022028 | -0.024506 | -0.020451 | -0.024643 |
| ## | 1115 | 20120604 | 0.030497  | -0.001002 | -0.002267 | 0.000110  |
| ## | 1116 | 20120605 | -0.006338 | 0.007851  | 0.008065  | 0.005727  |
| ## | 1117 | 20120606 | 0.020778  | 0.022686  | 0.019661  | 0.023049  |
| ## | 1118 | 20120607 | 0.005330  | -0.001373 | -0.002025 | -0.000106 |
| ## | 1119 | 20120608 | -0.001463 | 0.007125  | 0.005409  | 0.008114  |
| ## | 1120 | 20120611 | -0.009063 | -0.013950 | -0.013468 | -0.012620 |
| ## | 1121 | 20120612 | -0.000370 | 0.011662  | 0.008888  | 0.011651  |
| ## | 1122 | 20120613 | -0.007809 | -0.006935 | -0.007142 | -0.007023 |
| ## | 1123 | 20120614 | -0.001304 | 0.009494  | 0.007904  | 0.010815  |
| ## | 1124 | 20120615 | 0.018186  | 0.010109  | 0.008727  | 0.010338  |
| ## | 1125 | 20120618 | 0.019739  | 0.002201  | 0.001768  | 0.001445  |
| ## | 1126 | 20120619 | 0.006153  | 0.011614  | 0.012890  | 0.009816  |
| ## | 1127 | 20120620 | -0.004508 | -0.001473 | -0.000497 | -0.001686 |
| ## | 1128 | 20120621 | -0.010963 | -0.023448 | -0.018456 | -0.022262 |
| ## | 1129 | 20120622 | 0.007186  | 0.007247  | 0.007577  | 0.007175  |
| ## | 1130 | 20120625 | -0.009408 | -0.015425 | -0.011917 | -0.015955 |
| ## | 1131 | 20120626 | 0.025174  | 0.004859  | 0.002915  | 0.004773  |
| ## | 1132 | 20120627 | 0.000044  | 0.009026  | 0.009620  | 0.008985  |
| ## | 1133 | 20120628 | -0.019103 | -0.002125 | -0.002531 | -0.002110 |
| ## | 1134 | 20120629 | 0.031811  | 0.025610  | 0.023311  | 0.024920  |
| ## | 1135 | 20120702 | 0.004248  | 0.003868  | 0.006684  | 0.002459  |
| ## | 1136 | 20120703 | 0.000916  | 0.008940  | 0.010767  | 0.006232  |
| ## | 1137 | 20120705 | -0.010761 | -0.004123 | -0.000733 | -0.004687 |
| ## | 1138 | 20120706 | -0.008852 | -0.009956 | -0.007701 | -0.009433 |
| ## | 1139 | 20120709 | 0.000000  | -0.002193 | -0.002344 | -0.001639 |
| ## | 1140 | 20120710 | -0.024661 | -0.008807 | -0.008240 | -0.008126 |
| ## | 1141 | 20120711 | -0.005148 | -0.000302 | -0.000282 | -0.000015 |
| ## | 1142 | 20120712 | -0.013784 | -0.004880 | -0.004134 | -0.004987 |
| ## | 1143 | 20120713 | 0.014069  | 0.015253  | 0.010665  | 0.016497  |
| ## | 1144 | 20120716 | -0.010898 | -0.002466 | -0.003494 | -0.002314 |
| ## | 1145 | 20120717 | 0.004259  | 0.006708  | 0.002457  | 0.007410  |
| ## | 1146 | 20120718 | 0.002489  | 0.006246  | 0.003871  | 0.006681  |
| ## | 1147 | 20120719 | 0.040006  | 0.002819  | 0.000016  | 0.002717  |
| ## | 1148 | 20120720 | 0.009373  | -0.009908 | -0.008733 | -0.010062 |
| ## | 1149 | 20120723 | -0.009987 | -0.010140 | -0.012004 | -0.008909 |
| ## | 1150 | 20120724 | -0.013141 | -0.009410 | -0.009270 | -0.009041 |
| ## | 1151 | 20120725 | -0.026856 | 0.000714  | 0.002465  | -0.000314 |
| ## | 1152 | 20120726 | 0.013637  | 0.015498  | 0.008642  | 0.016541  |
| ## | 1153 | 20120727 | 0.078678  | 0.018906  | 0.016470  | 0.019081  |
| ## | 1154 | 20120730 | -0.005183 | -0.000796 | -0.002846 | -0.000483 |
| ## | 1155 | 20120731 | -0.011817 | -0.004969 | -0.003201 | -0.004317 |
| ## | 1156 | 20120801 | -0.005186 | -0.004475 | -0.009081 | -0.003030 |
| ## | 1157 | 20120802 | -0.005515 | -0.007291 | -0.005662 | -0.007374 |
| ## | 1158 | 20120803 | 0.018023  | 0.019217  | 0.017764  | 0.019040  |
| ## | 1159 | 20120806 | -0.004171 | 0.003528  | 0.006633  | 0.002329  |

|    |      |          |           |           |           |           |
|----|------|----------|-----------|-----------|-----------|-----------|
| ## | 1160 | 20120807 | 0.010983  | 0.006347  | 0.006234  | 0.005107  |
| ## | 1161 | 20120808 | -0.009215 | 0.000185  | -0.000985 | 0.000621  |
| ## | 1162 | 20120809 | -0.001365 | 0.001632  | 0.003390  | 0.000414  |
| ## | 1163 | 20120810 | -0.005597 | 0.001878  | -0.000714 | 0.002188  |
| ## | 1164 | 20120813 | -0.001332 | -0.001901 | -0.002122 | -0.001252 |
| ## | 1165 | 20120814 | 0.003227  | -0.000010 | -0.002248 | -0.000128 |
| ## | 1166 | 20120815 | 0.018140  | 0.002742  | 0.004557  | 0.001140  |
| ## | 1167 | 20120816 | 0.017395  | 0.007898  | 0.008086  | 0.007101  |
| ## | 1168 | 20120817 | -0.001573 | 0.002642  | 0.004758  | 0.001872  |
| ## | 1169 | 20120820 | -0.003400 | -0.000604 | -0.001571 | -0.000021 |
| ## | 1170 | 20120821 | -0.003745 | -0.002326 | -0.000635 | -0.003498 |
| ## | 1171 | 20120822 | 0.015243  | -0.000101 | -0.001769 | 0.000226  |
| ## | 1172 | 20120823 | -0.007824 | -0.007328 | -0.004534 | -0.008072 |
| ## | 1173 | 20120824 | 0.018831  | 0.005503  | 0.003249  | 0.006455  |
| ## | 1174 | 20120827 | -0.007406 | -0.000554 | -0.000562 | -0.000489 |
| ## | 1175 | 20120828 | 0.008978  | 0.000250  | 0.002383  | -0.000808 |
| ## | 1176 | 20120829 | 0.004104  | 0.001006  | 0.001836  | 0.000844  |
| ## | 1177 | 20120830 | -0.003642 | -0.007791 | -0.007581 | -0.007806 |
| ## | 1178 | 20120831 | 0.008326  | 0.005875  | 0.005303  | 0.005073  |
| ## | 1179 | 20120904 | -0.001571 | 0.000683  | 0.003257  | -0.001166 |
| ## | 1180 | 20120905 | -0.006697 | -0.000603 | -0.000701 | -0.001068 |
| ## | 1181 | 20120906 | 0.020957  | 0.019457  | 0.013690  | 0.020436  |
| ## | 1182 | 20120907 | 0.030870  | 0.005651  | 0.006500  | 0.004050  |
| ## | 1183 | 20120910 | -0.007911 | -0.005681 | -0.001847 | -0.006148 |
| ## | 1184 | 20120911 | -0.005523 | 0.003425  | 0.004919  | 0.003135  |
| ## | 1185 | 20120912 | -0.000156 | 0.002643  | 0.003966  | 0.002093  |
| ## | 1186 | 20120913 | 0.018034  | 0.015281  | 0.011218  | 0.016310  |
| ## | 1187 | 20120914 | 0.003958  | 0.006141  | 0.008189  | 0.003959  |
| ## | 1188 | 20120917 | -0.012516 | -0.004545 | -0.004125 | -0.003125 |
| ## | 1189 | 20120918 | 0.002907  | -0.001779 | -0.000302 | -0.001280 |
| ## | 1190 | 20120919 | 0.011324  | 0.001315  | 0.001816  | 0.001185  |
| ## | 1191 | 20120920 | -0.003325 | -0.001935 | -0.003646 | -0.000541 |
| ## | 1192 | 20120921 | -0.012806 | 0.000447  | 0.004987  | -0.000075 |
| ## | 1193 | 20120924 | -0.010351 | -0.003072 | -0.003206 | -0.002233 |
| ## | 1194 | 20120925 | -0.009203 | -0.010796 | -0.009643 | -0.010502 |
| ## | 1195 | 20120926 | -0.011051 | -0.005509 | -0.004870 | -0.005737 |
| ## | 1196 | 20120927 | 0.027717  | 0.010038  | 0.009004  | 0.009649  |
| ## | 1197 | 20120928 | -0.008847 | -0.004497 | -0.003450 | -0.004478 |
| ## | 1198 | 20121001 | -0.009083 | 0.002808  | 0.002686  | 0.002652  |
| ## | 1199 | 20121002 | -0.005595 | 0.001179  | 0.000358  | 0.000872  |
| ## | 1200 | 20121003 | 0.021229  | 0.002520  | -0.000075 | 0.003624  |
| ## | 1201 | 20121004 | 0.017779  | 0.007665  | 0.006553  | 0.007174  |
| ## | 1202 | 20121005 | -0.007525 | -0.000143 | -0.000816 | -0.000322 |
| ## | 1203 | 20121008 | 0.002128  | -0.003573 | -0.003513 | -0.003457 |
| ## | 1204 | 20121009 | -0.031267 | -0.009778 | -0.009101 | -0.009891 |
| ## | 1205 | 20121010 | -0.023789 | -0.005549 | -0.004100 | -0.006188 |
| ## | 1206 | 20121011 | -0.003143 | 0.001748  | 0.004541  | 0.000195  |
| ## | 1207 | 20121012 | -0.007616 | -0.003495 | -0.004211 | -0.002966 |
| ## | 1208 | 20121015 | 0.007509  | 0.007239  | 0.004203  | 0.008078  |
| ## | 1209 | 20121016 | -0.000983 | 0.009928  | 0.007051  | 0.010270  |
| ## | 1210 | 20121017 | 0.014553  | 0.005076  | 0.005617  | 0.004117  |
| ## | 1211 | 20121018 | -0.010667 | -0.002692 | -0.003857 | -0.002444 |
| ## | 1212 | 20121019 | -0.019808 | -0.015631 | -0.013002 | -0.016571 |
| ## | 1213 | 20121022 | -0.025917 | 0.000195  | -0.000217 | 0.000440  |

```

## 1214 20121023 0.002267 -0.012915 -0.006968 -0.014444
## 1215 20121024 -0.024839 -0.002620 -0.001404 -0.003085
## 1216 20121025 -0.024377 0.003296 0.002153 0.002996
## 1217 20121026 0.068724 -0.001379 -0.001835 -0.000729
## 1218 20121031 -0.022443 0.002488 0.003479 0.000156
## 1219 20121101 -0.003234 0.011187 0.009688 0.010927
## 1220 20121102 0.001216 -0.009744 -0.008756 -0.009379
## 1221 20121105 0.008208 0.002247 0.003177 0.002164
## 1222 20121106 0.013784 0.007865 0.006034 0.007853
## 1223 20121107 -0.023149 -0.021055 -0.017904 -0.023705
## 1224 20121108 -0.020300 -0.011559 -0.009589 -0.012205
## 1225 20121109 -0.004574 0.000938 -0.000526 0.001699
## 1226 20121112 0.000707 -0.000220 -0.001908 0.000130
## 1227 20121113 0.000574 -0.004151 -0.005841 -0.003985
## 1228 20121114 -0.016108 -0.014686 -0.015597 -0.013852
## 1229 20121115 -0.010545 -0.002941 -0.006183 -0.001594
## 1230 20121116 0.020993 0.006190 0.005711 0.004840
## 1231 20121119 0.019891 0.019176 0.016544 0.019862
## 1232 20121120 0.017718 0.000990 0.000886 0.000663
## 1233 20121121 0.018179 0.003116 0.004899 0.002320
## 1234 20121123 0.007772 0.012714 0.010102 0.013026
## 1235 20121126 0.015591 -0.001648 0.001177 -0.002030
## 1236 20121127 -0.000896 -0.004424 -0.000884 -0.005227
## 1237 20121128 0.015235 0.007487 0.005110 0.007856
## 1238 20121129 0.016835 0.005424 0.008573 0.004270
## 1239 20121130 0.003104 0.000261 0.000934 0.000162
## 1240 20121203 -0.006828 -0.004218 -0.002069 -0.004745
## 1241 20121204 0.008625 -0.001278 -0.001109 -0.001710
## 1242 20121205 0.005830 0.001759 -0.000019 0.001585
## 1243 20121206 -0.002323 0.002840 0.000757 0.003307
## 1244 20121207 -0.000402 0.002526 0.001168 0.002921
## 1245 20121210 -0.021709 0.001533 0.002706 0.000338
## 1246 20121211 0.011785 0.006150 0.007321 0.006549
## 1247 20121212 0.004268 0.000255 -0.000299 0.000448
## 1248 20121213 -0.002026 -0.005870 -0.004080 -0.006321
## 1249 20121214 -0.008199 -0.003101 0.000863 -0.004135
## 1250 20121217 0.018741 0.010178 0.006517 0.011871
## 1251 20121218 0.025762 0.011102 0.009526 0.011487
## 1252 20121219 -0.009255 -0.004644 0.000914 -0.007589
## 1253 20121220 0.013605 0.004883 0.004202 0.005488
## 1254 20121221 -0.017514 -0.008489 -0.005630 -0.009379
## 1255 20121224 0.006617 -0.002206 -0.002533 -0.002440
## 1256 20121226 -0.038623 -0.004957 -0.003259 -0.004787
## 1257 20121227 -0.001293 -0.000673 -0.001788 -0.001218
## 1258 20121228 -0.012605 -0.009276 -0.004132 -0.011050
## 1259 20121231 0.023207 0.016421 0.014969 0.016942

```

```

simplereturn_amzn=da2[,2]
basicStats(simplereturn_amzn)

```

```

##          simplereturn_amzn
## nobs          1259.000000
## NAs              0.000000
## Minimum        -0.127820

```

```
## Maximum      0.267951
## 1. Quartile  -0.013195
## 3. Quartile   0.014571
## Mean         0.001207
## Median       -0.000451
## Sum          1.519912
## SE Mean      0.000820
## LCL Mean     -0.000401
## UCL Mean     0.002816
## Variance     0.000846
## Stdev        0.029087
## Skewness     1.031884
## Kurtosis     9.360219
```

```
#samplemean: 0.001207,sd: 0.029087,skewness: 1.031884,excess kurtosis:9.360219
#Minimum      -0.127820
#Maximum      0.267951
```

```
simplereturn_vwrtn=da2[,3]
basicStats(simplereturn_vwrtn)
```

```
##          simplereturn_vwrtn
## nobs          1259.000000
## NAs            0.000000
## Minimum       -0.089763
## Maximum        0.114895
## 1. Quartile   -0.006328
## 3. Quartile    0.007376
## Mean          0.000210
## Median         0.000818
## Sum           0.264749
## SE Mean       0.000469
## LCL Mean      -0.000710
## UCL Mean       0.001130
## Variance      0.000277
## Stdev         0.016641
## Skewness      -0.113083
## Kurtosis       6.298940
```

```
#samplemean: 0.000210
#Stdev       0.016641
#Skewness    -0.113083
#Kurtosis    6.298940
#Minimum=-0.089763,Maximum=0.114895
```

```
simplereturn_ewrtn=da2[,4]
basicStats(simplereturn_ewrtn)
```

```
##          simplereturn_ewrtn
## nobs          1259.000000
## NAs            0.000000
## Minimum       -0.078240
## Maximum        0.107422
```

```
## 1. Quartile      -0.006365
## 3. Quartile      0.007780
## Mean             0.000517
## Median           0.001210
## Sum              0.651089
## SE Mean          0.000434
## LCL Mean         -0.000334
## UCL Mean         0.001368
## Variance         0.000237
## Stdev            0.015395
## Skewness         -0.168185
## Kurtosis         5.275824
```

```
#Stdev= 0.015395
#Skewness=-0.168185
#Kurtosis=5.275824
#samplemean=0.000517,Minimum=-0.078240,Maximum=0.107422
```

```
simplereturn_sprtn=da2[,5]
basicStats(simplereturn_sprtn)
```

```
##          simplereturn_sprtn
## nobs          1259.000000
## NAs            0.000000
## Minimum       -0.090350
## Maximum        0.115800
## 1. Quartile   -0.006301
## 3. Quartile    0.006978
## Mean          0.000114
## Median        0.000685
## Sum           0.143876
## SE Mean       0.000467
## LCL Mean      -0.000802
## UCL Mean      0.001031
## Variance      0.000275
## Stdev         0.016573
## Skewness      -0.018307
## Kurtosis      7.154386
```

```
#Stdev=0.016573,Skewness=-0.018307,Kurtosis =7.154386
#Mean=0.000114,Minimum=-0.090350,Maximum=0.115800
```

```
logreturn_amzn=log(x=1+simplereturn_amzn)
logreturn_vwrtn=log(x=1+simplereturn_vwrtn)
logreturn_ewrtn=log(x=1+simplereturn_ewrtn)
logreturn_sprtn=log(x=1+simplereturn_sprtn)
basicStats(logreturn_amzn)
```

```
##          logreturn_amzn
## nobs          1259.000000
## NAs            0.000000
## Minimum       -0.136759
## Maximum        0.237402
```

```
## 1. Quartile      -0.013283
## 3. Quartile      0.014466
## Mean             0.000791
## Median           -0.000451
## Sum              0.996211
## SE Mean          0.000810
## LCL Mean         -0.000798
## UCL Mean          0.002380
## Variance          0.000826
## Stdev             0.028736
## Skewness          0.627148
## Kurtosis          7.249289
```

```
#Minimum          -0.136759
#Maximum           0.237402
#Mean              0.000791
#Stdev             0.028736
#Skewness          0.627148
#Kurtosis          7.249289
```

```
basicStats(logreturn_vwrtn)
```

```
##                logreturn_vwrtn
## nobs            1259.000000
## NAs              0.000000
## Minimum         -0.094050
## Maximum          0.108760
## 1. Quartile     -0.006348
## 3. Quartile      0.007348
## Mean            0.000072
## Median           0.000818
## Sum             0.090160
## SE Mean          0.000470
## LCL Mean        -0.000850
## UCL Mean         0.000993
## Variance         0.000278
## Stdev            0.016673
## Skewness         -0.317276
## Kurtosis         6.194861
```

```
#Minimum          -0.094050
#Maximum           0.108760
#Mean              0.000072
#Stdev             0.016673
#Skewness         -0.317276
#Kurtosis          6.194861
```

```
basicStats(logreturn_ewrtn)
```

```
##                logreturn_ewrtn
## nobs            1259.000000
## NAs              0.000000
## Minimum         -0.081470
## Maximum          0.102035
```

```
## 1. Quartile      -0.006385
## 3. Quartile      0.007749
## Mean             0.000398
## Median           0.001209
## Sum              0.501599
## SE Mean          0.000435
## LCL Mean         -0.000454
## UCL Mean          0.001251
## Variance          0.000238
## Stdev            0.015420
## Skewness         -0.333442
## Kurtosis          5.193084
```

```
#Minimum          -0.081470
#Maximum           0.102035
#Mean              0.000398
#Stdev             0.015420
#Skewness         -0.333442
#Kurtosis          5.193084
```

```
basicStats(logreturn_sprtn)
```

```
##          logreturn_sprtn
## nobs      1259.000000
## NAs        0.000000
## Minimum   -0.094695
## Maximum    0.109572
## 1. Quartile -0.006320
## 3. Quartile 0.006954
## Mean      -0.000023
## Median     0.000685
## Sum       -0.029133
## SE Mean    0.000468
## LCL Mean   -0.000941
## UCL Mean    0.000894
## Variance    0.000275
## Stdev       0.016594
## Skewness   -0.242090
## Kurtosis    6.952089
```

```
#Minimum          -0.094695
#Maximum           0.109572
#Mean              -0.000023
#Stdev             0.016594
#Skewness         -0.242090
#Kurtosis          6.952089
```

```
logreturn_amzn
```

```
##      [1] 3.822791e-02 -1.086380e-02 -6.981106e-02 3.379429e-04 -1.063940e-02
##      [6] -3.073657e-02 -1.132893e-02 -3.847059e-02 2.183683e-02 -3.225153e-02
##     [11] 1.370061e-03 -2.866103e-03 -4.503124e-03 -1.617816e-02 -5.918435e-02
##     [16] 4.880921e-02 -9.014061e-04 -2.320517e-02 -2.497325e-02 3.509833e-03
##     [21] 4.595663e-02 -4.031275e-02 -9.153768e-03 -2.547372e-02 -5.122803e-02
```

```

## [26] 3.472408e-02 3.587377e-02 2.273264e-02 -9.890753e-03 4.311409e-02
## [31] -2.514346e-02 -3.818693e-02 -1.213432e-02 2.141212e-02 -5.212311e-02
## [36] 3.071057e-02 1.637421e-02 -2.179990e-02 -1.150392e-02 -4.354758e-02
## [41] -5.109963e-02 -3.215446e-02 4.555828e-02 -5.369389e-03 -3.523554e-02
## [46] 2.128878e-02 -9.721097e-03 5.636143e-02 -9.576711e-03 2.685028e-02
## [51] -1.465073e-03 -2.508501e-02 7.483749e-02 -2.156997e-02 4.213761e-02
## [56] 3.701636e-02 -1.032310e-02 -1.839312e-02 -4.149931e-02 -1.479795e-02
## [61] 2.183585e-02 7.300508e-02 8.697071e-03 -3.191181e-02 2.542795e-02
## [66] 3.899240e-04 5.188516e-03 -3.837291e-02 5.897575e-03 -3.869197e-02
## [71] 8.575128e-03 -1.516149e-03 2.842029e-02 -7.401322e-03 7.867069e-02
## [76] 9.985013e-04 -7.260292e-03 1.743512e-02 -4.172240e-02 3.999253e-02
## [81] 1.363364e-02 -1.511973e-02 -2.648053e-02 9.241169e-03 -2.617151e-02
## [86] -1.814360e-02 -2.769832e-03 -3.398811e-02 -5.343250e-03 -5.233672e-03
## [91] 2.885759e-02 4.029188e-04 -4.839692e-03 2.554688e-02 4.457053e-03
## [96] 7.348185e-02 -1.926335e-02 -3.043859e-02 1.218644e-02 -1.154742e-02
## [101] 2.856122e-02 -6.720532e-03 3.366328e-03 1.568239e-02 -1.717668e-02
## [106] -1.497120e-03 1.720219e-02 3.626732e-02 -4.699937e-02 -1.499486e-02
## [111] 2.389144e-03 -2.983054e-02 -1.472996e-02 3.889277e-02 3.145700e-02
## [116] 1.542541e-02 -5.438763e-03 2.086677e-02 -3.822433e-02 -5.192458e-03
## [121] -1.297380e-02 1.086476e-02 -5.370884e-02 -2.172836e-02 -1.797458e-02
## [126] 3.947200e-03 -3.005929e-02 7.808435e-03 6.782944e-03 3.457243e-02
## [131] -6.084933e-02 2.829600e-04 -3.003765e-02 -3.352886e-02 1.125245e-02
## [136] 6.930122e-02 3.750956e-03 -4.234816e-02 -9.302131e-03 -7.474867e-03
## [141] 3.711369e-02 1.097177e-01 -5.221609e-03 -3.020460e-02 2.892754e-02
## [146] 0.000000e+00 -2.420048e-02 -7.759024e-03 -5.281394e-04 4.392884e-02
## [151] -1.297684e-02 -1.470661e-02 4.522572e-02 8.997781e-02 -9.581759e-03
## [156] -6.438684e-03 1.533876e-02 -1.868957e-02 -3.882295e-02 -2.214234e-02
## [161] 1.027998e-02 1.366520e-02 2.373703e-02 -2.867420e-02 -1.324331e-02
## [166] -3.670674e-04 2.046711e-02 -3.178689e-02 7.397570e-03 -7.893068e-03
## [171] -3.451174e-02 1.475658e-02 2.457261e-02 -2.646821e-02 -2.953077e-02
## [176] 3.545980e-02 -1.533498e-02 -1.233679e-02 1.781340e-02 -9.576778e-02
## [181] 6.703415e-02 5.715886e-02 -7.789452e-02 -4.322697e-02 -2.540397e-02
## [186] 2.985293e-02 -1.933064e-02 -1.097702e-01 1.384916e-01 -4.468884e-02
## [191] -3.242609e-02 -5.358330e-03 -2.677323e-02 -1.085512e-01 4.183268e-02
## [196] -8.584987e-02 4.454066e-03 9.765107e-02 -1.046086e-01 -1.367595e-01
## [201] 3.171667e-02 7.132503e-03 4.478692e-02 -5.311284e-02 -4.789451e-03
## [206] 6.579309e-03 -2.739895e-02 1.258349e-02 1.224778e-01 1.505412e-02
## [211] -3.169016e-03 9.302596e-03 -2.601651e-02 4.693607e-02 -1.173128e-01
## [216] -9.604185e-02 4.127917e-02 -1.535834e-02 -4.559692e-02 -1.080040e-01
## [221] 7.796794e-02 -7.340653e-02 -5.059985e-02 -3.200060e-02 -7.003413e-02
## [226] -2.285929e-02 7.795407e-02 1.153445e-01 -7.320731e-03 4.109684e-02
## [231] -2.908078e-02 -5.363815e-02 1.763459e-02 9.312324e-02 4.561465e-02
## [236] 1.967027e-02 6.322923e-02 -3.116852e-03 -3.071079e-02 -2.960905e-02
## [241] 6.031963e-02 -4.796096e-02 7.453217e-02 1.039578e-02 -2.090091e-02
## [246] -1.003518e-02 -3.392810e-02 2.457553e-02 7.023279e-03 6.588250e-03
## [251] -4.705387e-02 2.715786e-02 1.019189e-02 5.832740e-02 -5.534286e-03
## [256] 5.925239e-02 -2.043028e-02 1.693774e-02 -2.929082e-02 -6.685908e-02
## [261] -9.093218e-03 -5.925331e-02 5.905822e-02 2.911757e-03 -6.300157e-02
## [266] 4.243957e-02 -1.194303e-02 1.372242e-02 -1.994866e-02 -2.426913e-02
## [271] 3.887161e-02 -7.174677e-03 1.624589e-01 3.884757e-02 3.912648e-02
## [276] -4.059910e-02 3.413086e-02 5.196607e-02 2.401115e-03 -5.231171e-02
## [281] 1.635552e-02 -6.140816e-03 -1.100433e-02 -2.545525e-02 1.096566e-02
## [286] -6.435665e-03 3.036527e-02 -3.424678e-02 6.112991e-02 -2.923418e-02
## [291] -2.173858e-02 3.854837e-02 -4.417866e-02 -4.688976e-03 4.917580e-02

```

```

## [296] -6.171904e-04 -4.872082e-02 -1.964368e-02 8.277282e-02 4.216637e-02
## [301] 1.506003e-02 -1.374706e-02 -2.433573e-02 6.320294e-02 -1.402984e-03
## [306] -1.627167e-02 -1.998997e-03 7.726840e-02 -3.733849e-02 -5.646914e-03
## [311] 1.766112e-02 -4.397070e-02 1.296163e-02 2.761128e-02 8.166664e-04
## [316] 3.791120e-02 2.368918e-02 -2.305656e-03 -3.231557e-02 1.928092e-02
## [321] 3.560167e-02 -1.045951e-02 -2.202989e-02 -3.304502e-02 3.343284e-02
## [326] 1.030274e-02 -6.168989e-03 1.497038e-02 5.825002e-03 1.764638e-02
## [331] 4.665551e-02 -1.599220e-02 -8.699733e-03 -3.218750e-02 9.107401e-03
## [336] -1.956414e-02 1.020574e-02 2.635172e-02 1.098397e-03 -3.361159e-02
## [341] -1.691831e-02 8.431356e-03 -8.687628e-03 -4.918184e-02 1.232474e-02
## [346] -2.030884e-02 3.142987e-02 2.496575e-02 1.283176e-03 -2.611710e-02
## [351] -4.221900e-03 3.571071e-02 -1.659290e-02 7.108673e-03 4.369440e-03
## [356] 6.286212e-02 2.238459e-02 8.792235e-03 -1.868745e-03 2.357394e-02
## [361] -1.379978e-02 8.302439e-03 -5.642891e-03 -1.044839e-02 -1.896776e-02
## [366] -1.076170e-02 -1.246031e-02 6.067555e-03 -1.284717e-02 1.659061e-02
## [371] -4.701404e-02 -1.874663e-02 2.026233e-02 3.629528e-02 2.023195e-02
## [376] -1.018570e-02 7.559356e-03 -2.493224e-02 -2.833878e-02 -1.550051e-02
## [381] -3.213690e-02 2.261729e-02 9.520536e-03 -6.036181e-03 4.828051e-02
## [386] 5.874710e-03 3.123410e-02 1.828285e-02 -3.023566e-03 2.734568e-02
## [391] 8.802147e-03 -2.475060e-03 5.563715e-02 -8.188165e-02 -2.635938e-02
## [396] 8.745645e-03 -7.559501e-03 2.053667e-02 -3.840365e-03 1.940059e-02
## [401] -1.893412e-02 -1.775570e-02 2.132724e-03 1.001271e-02 -1.036756e-02
## [406] -1.047669e-02 2.831726e-02 -1.594749e-02 -1.213028e-02 -3.061489e-02
## [411] 1.299223e-02 1.065899e-02 1.304652e-02 1.076386e-02 -5.899367e-03
## [416] -3.675747e-03 -2.259551e-03 3.683209e-03 -1.855509e-02 -1.915326e-02
## [421] -2.532088e-02 -1.296873e-02 4.086638e-03 5.212392e-03 2.541333e-02
## [426] 1.642831e-02 1.938784e-02 8.195326e-03 -8.076528e-03 -3.703851e-03
## [431] 8.211164e-02 -2.871118e-03 -1.770567e-03 3.096202e-03 3.461879e-02
## [436] -1.472082e-02 -2.927280e-03 -1.741273e-02 1.849785e-02 -5.328170e-03
## [441] 1.772203e-02 -2.516397e-02 -1.315718e-02 -1.322000e-02 2.494819e-02
## [446] 3.310590e-02 1.321431e-02 5.132805e-03 -2.229264e-02 1.305541e-02
## [451] 2.735638e-02 -1.498979e-02 -7.212951e-03 -6.736640e-03 3.163989e-03
## [456] -1.656139e-02 3.209485e-04 2.374022e-01 5.059995e-02 -2.083454e-02
## [461] -3.529220e-03 7.673483e-03 -3.121413e-02 2.519683e-04 -3.962842e-03
## [466] -1.078697e-02 2.953356e-02 4.530601e-02 3.717083e-03 2.710239e-02
## [471] -1.845702e-03 4.760650e-03 1.852043e-02 -1.043223e-02 -2.587344e-03
## [476] 3.049535e-04 -1.767326e-02 5.180558e-03 2.543380e-02 -4.511017e-04
## [481] 8.165571e-03 -1.723365e-02 3.116237e-02 1.887769e-02 2.671593e-02
## [486] -7.620966e-03 -2.575893e-02 -2.479999e-02 -7.452777e-04 -2.109903e-02
## [491] 3.052436e-02 -9.127529e-03 -2.086415e-02 -8.791533e-03 -1.446309e-02
## [496] -1.136028e-02 1.229510e-02 3.299561e-02 7.203989e-03 3.807005e-02
## [501] -3.388735e-03 6.047676e-03 7.177424e-04 -2.116746e-02 -1.453817e-02
## [506] -4.619654e-03 5.882663e-03 -1.828210e-02 -1.715938e-02 2.671690e-02
## [511] -2.435007e-02 -2.296161e-02 1.372537e-02 -1.372577e-02 -1.650361e-03
## [516] 3.690183e-03 -1.444483e-02 6.655801e-03 -4.185273e-02 -9.265795e-03
## [521] -6.922908e-03 2.700117e-02 2.637023e-02 -4.931138e-03 -5.355796e-02
## [526] -6.328986e-03 8.262769e-03 -2.689033e-02 1.242845e-02 -4.781413e-03
## [531] 1.021861e-02 -5.693175e-03 2.299556e-02 -3.587427e-03 -1.796033e-02
## [536] -1.043425e-02 1.510337e-02 -4.754284e-03 4.161330e-03 -6.546381e-03
## [541] 2.093238e-02 -1.277728e-02 1.690570e-03 5.055812e-02 7.917573e-03
## [546] 2.863895e-03 2.075414e-02 2.952637e-03 9.265938e-03 -9.964481e-03
## [551] 1.303369e-02 2.325060e-02 -1.326357e-02 -5.247745e-03 5.020377e-03
## [556] -3.420844e-03 1.075397e-02 -1.831979e-02 9.205761e-04 -9.317271e-03
## [561] -9.482820e-03 5.092978e-02 2.446006e-03 4.439015e-04 1.074012e-02

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## [566] -5.940611e-03 -2.960081e-02 -2.430952e-03 3.048362e-02 -5.102998e-03
## [571] 4.416520e-02 -6.405471e-03 8.106057e-03 -7.392256e-03 2.897125e-02
## [576] 1.061744e-02 -2.534242e-02 1.820342e-03 1.235042e-02 1.534664e-02
## [581] 2.468773e-02 -4.399473e-02 2.394013e-02 -3.521276e-02 -1.897897e-02
## [586] 1.693479e-02 -3.321351e-02 2.840961e-03 -5.732513e-02 8.437306e-03
## [591] -1.710140e-02 -2.940821e-02 4.925482e-02 -6.342068e-03 2.580224e-02
## [596] -1.809065e-02 -2.259332e-02 2.928707e-03 -2.061300e-02 -1.347336e-02
## [601] -3.995570e-02 2.483309e-02 -4.900990e-03 2.218899e-02 -1.330310e-02
## [606] 2.793224e-02 -9.835207e-03 -1.785343e-02 2.460578e-02 1.921128e-02
## [611] -4.763788e-02 -6.209237e-03 -2.636656e-02 -7.814453e-03 4.396808e-02
## [616] -1.462068e-03 6.481947e-03 2.401629e-02 4.728882e-04 -7.990842e-03
## [621] -4.771138e-04 -2.641277e-02 -1.984969e-03 -7.031664e-03 -2.602575e-02
## [626] 2.231320e-02 -2.680199e-02 -8.122524e-02 5.967161e-03 1.543920e-02
## [631] -1.653800e-02 8.394666e-03 3.016056e-02 2.429936e-02 8.909195e-03
## [636] 1.900623e-02 3.405451e-02 -2.835015e-03 -1.010791e-02 -2.968425e-02
## [641] 1.216273e-02 1.333111e-03 -2.248183e-02 2.223203e-02 -1.004428e-02
## [646] -3.961838e-03 -1.078394e-02 0.000000e+00 -2.307661e-03 8.775383e-03
## [651] 1.832310e-02 1.938293e-02 4.128589e-02 1.958082e-03 3.825673e-03
## [656] 3.966125e-03 9.041007e-03 -3.212554e-02 5.307888e-03 -1.488625e-02
## [661] 1.100621e-02 2.188966e-02 6.112282e-03 -1.617308e-02 1.487893e-03
## [666] -9.121474e-03 -1.648615e-02 1.845859e-02 -1.581236e-02 1.415534e-02
## [671] -2.276210e-02 8.365908e-03 5.955393e-02 2.032210e-02 2.613255e-02
## [676] -1.137647e-02 1.389502e-02 8.872523e-03 1.456738e-02 1.829561e-02
## [681] 4.676050e-03 -2.060121e-03 1.825830e-02 1.315135e-03 1.989086e-02
## [686] -3.806235e-03 7.271498e-03 6.695535e-03 5.026907e-02 -8.496997e-03
## [691] 2.068858e-03 -4.455913e-03 -1.221328e-02 -2.155975e-02 1.087070e-02
## [696] 3.465840e-02 -3.459455e-02 5.583384e-03 -4.617645e-03 -1.633367e-02
## [701] 2.229462e-02 -8.407242e-03 2.317313e-03 5.692272e-02 -6.581611e-03
## [706] -3.035303e-02 0.000000e+00 3.893702e-02 2.490430e-02 -7.692958e-04
## [711] 5.605261e-03 -1.446106e-02 -4.008021e-03 -9.696863e-03 -1.616800e-02
## [716] 1.240869e-02 2.317830e-02 2.726280e-03 1.083311e-02 7.118603e-03
## [721] -1.005135e-02 1.781143e-02 -1.722449e-02 -2.791400e-02 -4.178287e-02
## [726] -7.072954e-03 3.606489e-03 3.609468e-02 3.951184e-03 3.323553e-02
## [731] -1.293631e-02 5.240742e-02 1.409007e-03 1.114862e-02 -2.305064e-02
## [736] 6.534603e-03 -1.130064e-04 -4.826629e-03 1.339982e-02 -7.214965e-03
## [741] -2.718692e-03 -8.201541e-03 4.394331e-03 -7.831587e-03 -1.780584e-03
## [746] 9.327365e-03 1.396996e-02 -2.587344e-03 3.164788e-02 7.934439e-03
## [751] 5.399854e-05 -1.181452e-02 -2.468043e-03 -5.781682e-03 1.251140e-02
## [756] -3.386728e-03 -1.516237e-02 2.317341e-02 4.278833e-03 1.294189e-02
## [761] -8.358838e-03 -1.992985e-03 -4.376563e-03 -1.842697e-03 -1.410995e-03
## [766] 7.846138e-03 1.720710e-02 1.315805e-02 -2.316832e-02 -2.662636e-02
## [771] -2.526755e-02 -3.218173e-03 -8.483598e-04 -7.441620e-03 5.036606e-02
## [776] -7.489597e-02 -8.803639e-03 1.445502e-02 8.217147e-03 1.036463e-03
## [781] 1.269902e-02 2.837969e-03 3.689011e-02 1.216175e-02 4.898980e-03
## [786] 1.619416e-02 6.162970e-03 -7.326775e-03 -1.283097e-02 6.090416e-03
## [791] -6.733620e-03 -3.314425e-02 -2.094686e-02 6.037736e-03 -2.873123e-03
## [796] -2.253809e-02 -2.246751e-02 1.511223e-02 4.466013e-03 -6.503099e-03
## [801] -1.520197e-02 -1.303661e-02 1.285996e-02 -1.736388e-02 1.155004e-02
## [806] -8.004954e-03 -9.945291e-03 -2.304654e-03 -2.290738e-02 5.267104e-03
## [811] 1.657783e-02 -1.176898e-02 1.658963e-02 3.436471e-02 -7.012458e-04
## [816] -9.578730e-03 3.064462e-02 2.711699e-02 3.949192e-03 0.000000e+00
## [821] 1.547957e-02 1.276419e-02 -1.374807e-02 1.169534e-02 -1.082586e-03
## [826] -3.633594e-03 -1.953354e-02 9.979043e-03 -2.581329e-03 -1.000488e-02
## [831] -9.320299e-03 2.688383e-03 2.784958e-02 1.092609e-02 -2.531201e-03

```

```

## [836] -1.697018e-02  7.567039e-02 -7.965642e-03  3.785825e-03  2.710531e-02
## [841] -1.371259e-02  7.629819e-03 -1.440526e-02  2.482915e-03  1.606428e-02
## [846]  1.551600e-02  2.155675e-03  8.234999e-03 -1.717973e-02 -5.088811e-02
## [851]  1.187620e-02  1.163604e-02  8.664356e-03 -7.803044e-04 -1.230844e-02
## [856] -1.514816e-02 -5.239703e-03  1.415140e-02 -4.471984e-03  1.310081e-02
## [861] -2.207793e-02  6.501817e-03 -2.790988e-02 -1.406444e-02  9.967162e-03
## [866]  2.662453e-03  8.630649e-03 -1.674644e-02 -1.287829e-03  1.950945e-02
## [871] -2.117461e-02 -1.260714e-02  1.470239e-02  7.217888e-03  3.409123e-02
## [876] -1.347640e-02  1.311660e-02 -8.326570e-03  4.419199e-02  5.451116e-03
## [881]  9.003348e-03  1.516849e-03  2.415686e-02  1.750784e-02  4.680032e-03
## [886]  1.183469e-02  7.079878e-03 -2.660171e-02 -6.229362e-03  1.068966e-02
## [891] -1.472184e-02  1.176650e-02 -6.314897e-03  3.040311e-02 -1.157776e-02
## [896] -1.091536e-02  1.540572e-02 -1.409284e-02  3.226788e-03  3.819134e-02
## [901]  6.191791e-03 -6.182070e-03 -5.407595e-03 -4.443999e-02 -8.252962e-03
## [906] -4.122728e-02  6.036742e-03 -4.541691e-02  5.713808e-02 -5.492092e-02
## [911]  2.155599e-02  1.966830e-02  3.207849e-03 -2.631010e-02 -8.892421e-03
## [916] -7.089790e-02 -1.986501e-02 -7.798328e-03  8.634007e-02  9.295678e-04
## [921] -8.813727e-03  3.700865e-02  3.578501e-02  2.103324e-02  2.022803e-02
## [926] -1.257676e-02 -1.202299e-02  2.900428e-02  1.706162e-02 -1.207764e-02
## [931] -2.738970e-02  2.416272e-02  1.362081e-02  1.375299e-02  1.873834e-02
## [936]  5.373790e-02  9.937459e-03 -3.554532e-02 -5.933569e-03 -3.797397e-02
## [941]  1.700553e-03  2.752372e-02 -2.484407e-02  2.423495e-02 -3.216065e-02
## [946] -2.831512e-02 -1.985073e-02  2.449996e-03  3.240136e-02  9.124247e-03
## [951]  1.447671e-02  2.885759e-02  1.782420e-02  5.632110e-03 -2.790891e-03
## [956]  4.374604e-02 -1.791349e-02  6.375632e-03 -5.196721e-02  8.943884e-03
## [961]  4.995502e-03  1.198193e-02 -4.502038e-02 -1.353250e-01  4.137032e-02
## [966]  4.971545e-02 -1.768751e-02 -6.601744e-03  1.643618e-02  1.230696e-02
## [971] -8.326570e-03  2.399120e-03  4.551626e-03 -3.154846e-02 -2.038075e-03
## [976]  3.083081e-02  7.059026e-03 -5.036663e-03 -2.717594e-02 -3.587384e-02
## [981] -3.675216e-02 -4.084491e-02  1.619613e-02 -1.757046e-02 -3.549765e-02
## [986]  6.243475e-02 -3.011700e-02  2.049063e-02  2.485845e-02 -5.595626e-03
## [991]  1.070427e-03 -2.189495e-02  1.719629e-02 -2.509219e-02  1.329819e-02
## [996] -1.835136e-02 -4.870822e-02 -1.663383e-03  5.809094e-03  0.000000e+00
## [1001] -1.070510e-02  1.763164e-02 -4.579475e-02  2.648905e-02 -9.823089e-03
## [1006] -5.713290e-03 -1.359398e-02 -1.730150e-04 -4.380581e-03  3.368426e-02
## [1011] -8.526245e-03  5.628416e-04  2.776302e-02 -2.242763e-02  4.358488e-03
## [1016] -2.456014e-03 -1.674034e-02  1.405378e-02  1.799609e-02  4.193529e-02
## [1021]  2.610235e-02 -1.826785e-02 -2.567685e-02  4.878083e-03  4.268875e-03
## [1026]  2.894891e-02  1.056895e-02 -1.661934e-02  1.184754e-02 -8.017155e-02
## [1031]  1.251437e-02  3.227162e-02 -2.448738e-02  5.716629e-03  6.979586e-03
## [1036] -2.699641e-03  3.022428e-03  3.208764e-02 -1.515147e-03 -3.635594e-02
## [1041] -2.491891e-02  1.418196e-02 -1.315865e-03 -9.260749e-03 -9.403071e-03
## [1046]  1.341100e-03 -3.355624e-03  2.909170e-02 -2.261480e-02  1.946105e-03
## [1051] -4.118469e-03  5.339718e-03  4.593434e-03  1.469056e-02  2.084032e-02
## [1056] -1.785139e-02 -5.058774e-03  6.521687e-03 -1.270335e-02  1.183568e-02
## [1061]  3.356361e-03  2.536780e-03  3.605031e-02 -3.124877e-03  3.487910e-03
## [1066]  1.362772e-02  3.936109e-02  1.258843e-02 -2.105307e-02  1.700558e-02
## [1071] -1.031603e-02 -2.227015e-02  8.096138e-03 -2.880902e-02  2.059877e-03
## [1076] -1.304877e-02 -2.581639e-02  5.281031e-03  1.436631e-02 -1.176291e-02
## [1081] -1.583065e-02  1.545988e-02  1.412576e-02  1.569877e-04 -5.878243e-03
## [1086] -9.201202e-03  1.104181e-02  2.126137e-02  8.042572e-03  1.462254e-01
## [1091]  2.201684e-02 -8.053341e-03  9.125835e-04 -3.480048e-03 -2.408370e-02
## [1096]  5.209407e-03 -5.611716e-03 -4.117465e-03  1.650110e-02  4.357492e-03
## [1101] -2.108371e-02  6.527648e-03 -1.472083e-03 -2.576919e-02 -2.087028e-02

```

```
## [1106] 1.972419e-02 -1.282793e-02 9.015240e-03 -9.433355e-03 -1.097804e-02
## [1111] 8.699053e-03 -2.604012e-02 1.743512e-02 -2.227424e-02 3.004121e-02
## [1116] -6.358170e-03 2.056508e-02 5.315846e-03 -1.464071e-03 -9.104319e-03
## [1121] -3.700685e-04 -7.839650e-03 -1.304851e-03 1.802261e-02 1.954671e-02
## [1126] 6.134148e-03 -4.518192e-03 -1.102354e-02 7.160304e-03 -9.452535e-03
## [1131] 2.486235e-02 4.399903e-05 -1.928782e-02 3.131551e-02 4.239003e-03
## [1136] 9.155807e-04 -1.081932e-02 -8.891412e-03 0.000000e+00 -2.497018e-02
## [1141] -5.161297e-03 -1.387988e-02 1.397095e-02 -1.095782e-02 4.249956e-03
## [1146] 2.485908e-03 3.922648e-02 9.329346e-03 -1.003720e-02 -1.322811e-02
## [1151] -2.722321e-02 1.354485e-02 7.573622e-02 -5.196478e-03 -1.188738e-02
## [1156] -5.199494e-03 -5.530264e-03 1.786251e-02 -4.179723e-03 1.092312e-02
## [1161] -9.257721e-03 -1.365932e-03 -5.612722e-03 -1.332888e-03 3.221804e-03
## [1166] 1.797743e-02 1.724544e-02 -1.574238e-03 -3.405793e-03 -3.752030e-03
## [1171] 1.512799e-02 -7.854768e-03 1.865589e-02 -7.433561e-03 8.937937e-03
## [1176] 4.095602e-03 -3.648648e-03 8.291530e-03 -1.572235e-03 -6.719526e-03
## [1181] 2.074042e-02 3.040311e-02 -7.942458e-03 -5.538308e-03 -1.560122e-04
## [1186] 1.787332e-02 3.950188e-03 -1.259498e-02 2.902783e-03 1.126036e-02
## [1191] -3.330540e-03 -1.288870e-02 -1.040494e-02 -9.245609e-03 -1.111252e-02
## [1196] 2.733984e-02 -8.886367e-03 -9.124502e-03 -5.610711e-03 2.100680e-02
## [1201] 1.762280e-02 -7.553456e-03 2.125739e-03 -3.176625e-02 -2.407653e-02
## [1206] -3.147950e-03 -7.645150e-03 7.480948e-03 -9.834835e-04 1.444812e-02
## [1211] -1.072430e-02 -2.000681e-02 -2.625876e-02 2.264434e-03 -2.515269e-02
## [1216] -2.467904e-02 6.646541e-02 -2.269868e-02 -3.239241e-03 1.215261e-03
## [1221] 8.174498e-03 1.368986e-02 -2.342115e-02 -2.050888e-02 -4.584493e-03
## [1226] 7.067502e-04 5.738353e-04 -1.623914e-02 -1.060099e-02 2.077568e-02
## [1231] 1.969576e-02 1.756287e-02 1.801574e-02 7.741954e-03 1.547071e-02
## [1236] -8.964016e-04 1.512011e-02 1.669486e-02 3.099193e-03 -6.851417e-03
## [1241] 8.588017e-03 5.813071e-03 -2.325702e-03 -4.020808e-04 -2.194811e-02
## [1246] 1.171610e-02 4.258918e-03 -2.028055e-03 -8.232797e-03 1.856755e-02
## [1251] 2.543575e-02 -9.298094e-03 1.351328e-02 -1.766918e-02 6.595204e-03
## [1256] -3.938865e-02 -1.293837e-03 -1.268512e-02 2.294181e-02
```

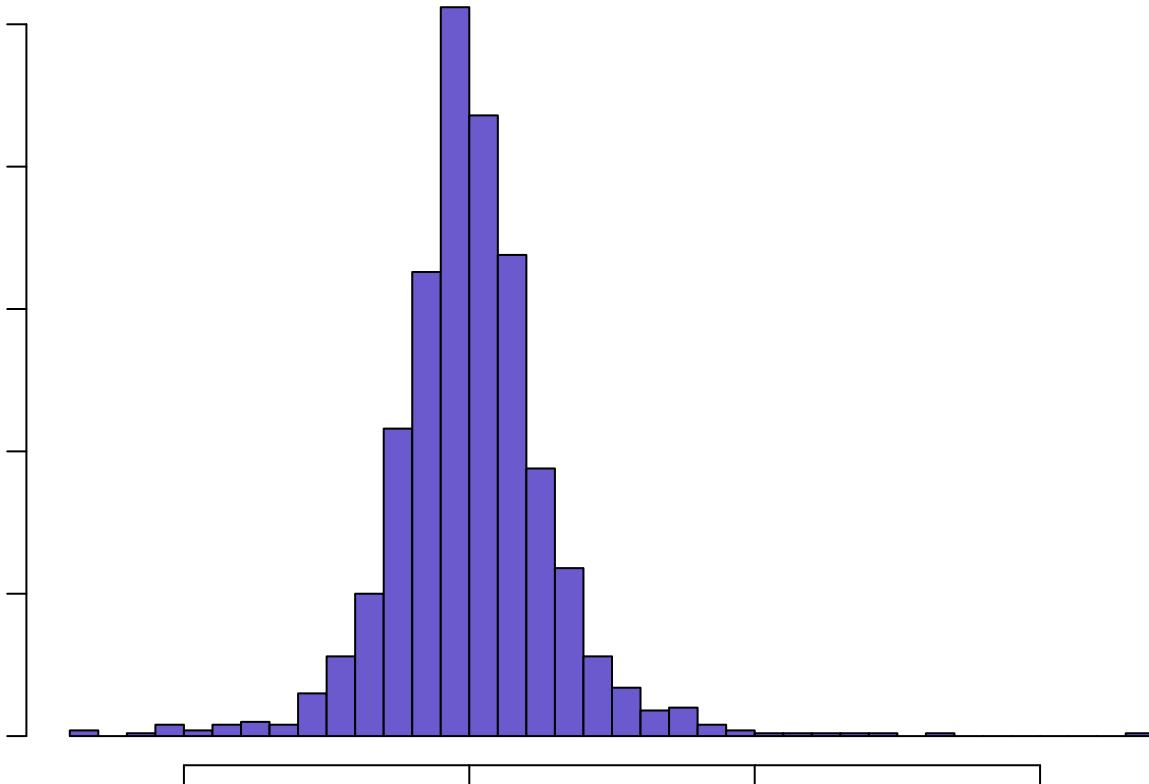
```
t.test(logreturn_amzn)
```

```
##
## One Sample t-test
##
## data: logreturn_amzn
## t = 0.97705, df = 1258, p-value = 0.3287
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
## -0.0007975567 0.0023801007
## sample estimates:
## mean of x
## 0.000791272
```

```
#data: logreturn_amzn
#t = 0.97705, df = 1258, p-value = 0.3287
#alternative hypothesis: true mean is not equal to 0
#95 percent confidence interval: -0.0007975567 0.0023801007
#sample estimates:
#mean of x 0.000791272
#we can reject the null hypothesis, that is the means of log return is not = 0.
```

```
par(mfrow=c(1,1))
hist(logreturn_amzn, breaks=40, col="slateblue")
```

**Histogram of logreturn\_amzn**



```
da3=read.table("m-abt3dx.txt", skip=1)
Monthlyreturn_ret=da3[,2]
basicStats(Monthlyreturn_ret)
```

```
##           Monthlyreturn_ret
## nobs           492.000000
## NAs             0.000000
## Minimum        -0.234146
## Maximum         0.382326
## 1. Quartile    -0.024230
## 3. Quartile     0.055840
## Mean           0.014073
## Median          0.014083
## Sum             6.923863
## SE Mean        0.002921
## LCL Mean       0.008333
## UCL Mean       0.019812
## Variance       0.004198
## Stdev          0.064795
## Skewness       0.097058
## Kurtosis       2.469971
```

```

#Minimum      -0.234146
#Maximum      0.382326
#Mean         0.014073
#Stdev        0.064795
#Skewness     0.097058
#Kurtosis     2.469971
Monthlyreturn_vwret=da3[,3]
basicStats(Monthlyreturn_vwret)

```

```

##           Monthlyreturn_vwretd
## nobs           492.000000
## NAs             0.000000
## Minimum        -0.225363
## Maximum         0.165585
## 1. Quartile    -0.017196
## 3. Quartile     0.039484
## Mean           0.009020
## Median          0.012626
## Sum             4.437612
## SE Mean        0.002089
## LCL Mean       0.004915
## UCL Mean       0.013124
## Variance       0.002147
## Stdev          0.046341
## Skewness       -0.555341
## Kurtosis       2.073657

```

```

#Minimum      -0.225363
#Maximum      0.165585
#Mean         0.009020
#Median       0.012626

#Stdev        0.046341
#Skewness     -0.555341
#Kurtosis     2.073657
Monthlyreturn_ewret=da3[,4]
basicStats(Monthlyreturn_ewret)

```

```

##           Monthlyreturn_ewretd
## nobs           492.000000
## NAs             0.000000
## Minimum        -0.272248
## Maximum         0.299260
## 1. Quartile    -0.020694
## 3. Quartile     0.044462
## Mean           0.011583
## Median          0.014379
## Sum             5.699074
## SE Mean        0.002583
## LCL Mean       0.006508
## UCL Mean       0.016659
## Variance       0.003283
## Stdev          0.057299

```

```
## Skewness          -0.200025
## Kurtosis          3.288104
```

```
#Minimum           -0.272248
#Maximum           0.299260
#Mean              0.011583
#Stdev             0.057299
#Skewness          -0.200025
#Kurtosis          3.288104
```

```
Monthlyreturn_sprtrn=da3[,5]
basicStats(Monthlyreturn_sprtrn)
```

```
##           Monthlyreturn_sprtrn
## nobs           492.000000
## NAs             0.000000
## Minimum        -0.217630
## Maximum         0.163047
## 1. Quartile    -0.018948
## 3. Quartile     0.035349
## Mean           0.006386
## Median          0.009091
## Sum             3.142113
## SE Mean         0.002019
## LCL Mean        0.002419
## UCL Mean        0.010354
## Variance        0.002006
## Stdev           0.044788
## Skewness        -0.444303
## Kurtosis        1.889777
```

```
#Minimum           -0.217630
#Maximum           0.163047
#Mean              0.006386
#Stdev             0.044788
#Skewness          -0.444303
#Kurtosis          1.889777
```

```
t.test(Monthlyreturn_vwretd)
```

```
##
## One Sample t-test
##
## data: Monthlyreturn_vwretd
## t = 4.3172, df = 491, p-value = 1.912e-05
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  0.004914667 0.013124406
## sample estimates:
## mean of x
## 0.009019537
```

```

#data: Monthlyreturn_vwretd
#t = 4.3172, df = 491, p-value = 1.912e-05
#alternative hypothesis: true mean is not equal to 0
#95 percent confidence interval:0.004914667 0.013124406
#sample estimates:
#mean of x 0.009019537
#we reject the null hypothesis, therefore, mean of the monthly stock return of the
#value weighted index is not 0.

```

```

tst_vwretd = skewness(Monthlyreturn_vwretd)/sqrt(6/546)
tst_vwretd

```

```
## [1] -5.313811
```

```

pv= 2*pnorm(tst_vwretd)
pv

```

```
## [1] 1.073558e-07
```

```

# pv= 1.073558e-07, hence we can reject the null hypothesis, which means m3 is not equal to 0

```

```

tst_vwretd2 = kurtosis(Monthlyreturn_vwretd)/sqrt(24/546)
tst_vwretd2

```

```
## [1] 9.989386
```

```

pv = 2*(1-pnorm(tst_vwretd2))
pv

```

```
## [1] 0
```

```

#pv = 0, hence we can reject the null hypothesis, which means k3 is not equal to 0.

```

```

#5
normalTest(logreturn_amzn, method="jb")

```

```

##
## Title:
## Jarque - Bera Normalality Test
##
## Test Results:
## STATISTIC:
## X-squared: 2851.9397
## P VALUE:
## Asymptotic p Value: < 2.2e-16
##
## Description:
## Tue Mar 02 07:28:45 2021 by user: Orachai

```

```

#Test Results:Test Results:
#STATISTIC:
#X-squared: 2851.9397
#P VALUE: Asymptotic p Value: < 2.2e-16
# we can reject the null hypothesis, the log return is not symmetric to its mean

```

```

tst_amzn= kurtosis(logreturn_amzn)/sqrt(24/546)
tst_amzn

```

```
## [1] 34.65466
```

```

pv = 2*(1-pnorm(tst_amzn))
pv

```

```
## [1] 0
```

```
#pv = 0, hence we can reject the null hypothesis.
```

```
t.test(logreturn_amzn)
```

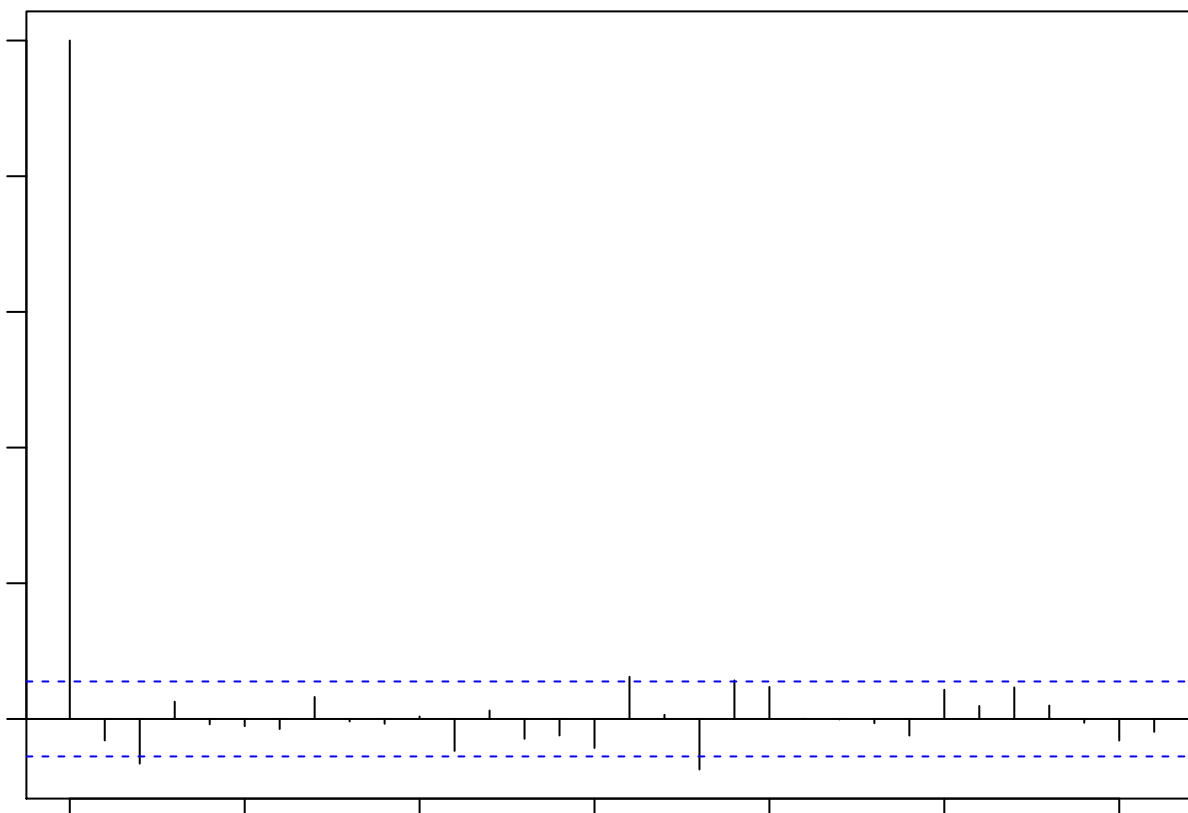
```

##
## One Sample t-test
##
## data: logreturn_amzn
## t = 0.97705, df = 1258, p-value = 0.3287
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
## -0.0007975567 0.0023801007
## sample estimates:
## mean of x
## 0.000791272

```

```
#95 percent confidence interval:-0.0007975567 0.0023801007
```

```
m1amzn=acf(logreturn_amzn)
```



```
names(m1amzn)
```

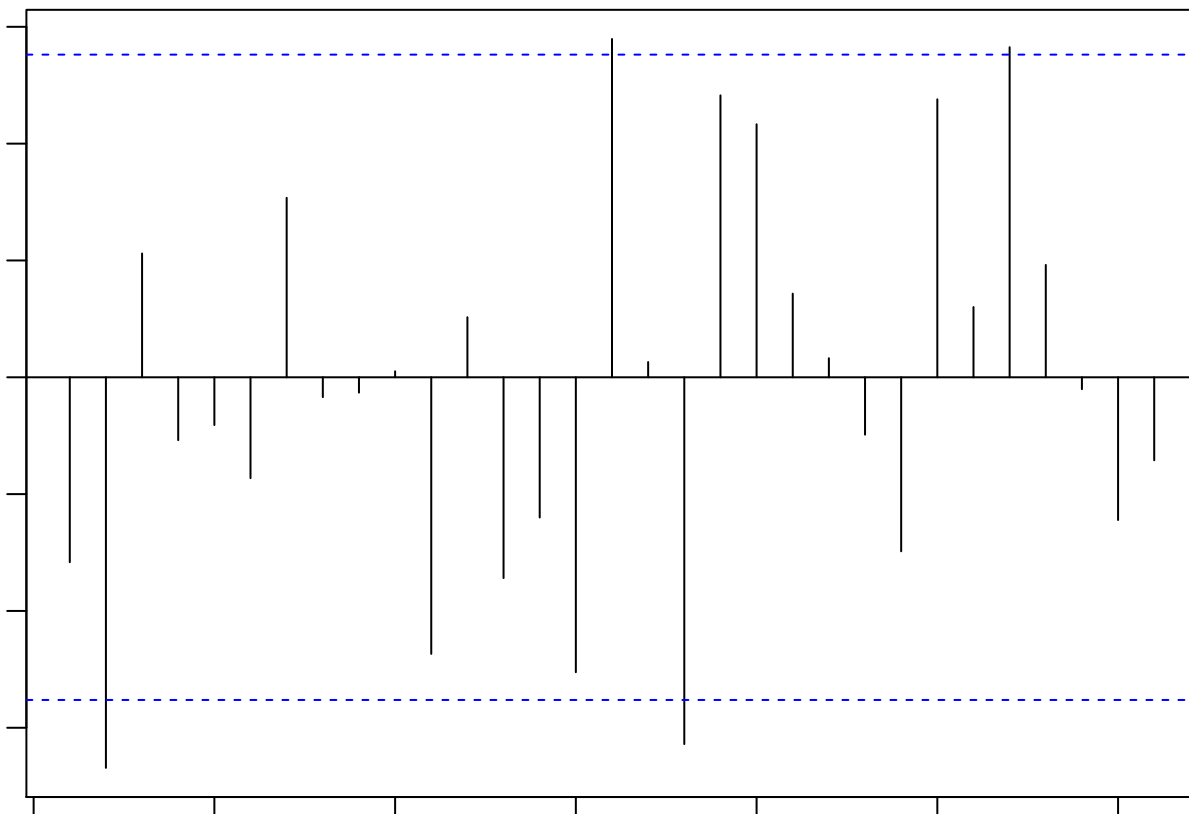
```
## [1] "acf"      "type"     "n.used"   "lag"      "series"   "snames"
```

```
m1amzn$acf
```

```
## , , 1
##
##          [,1]
## [1,]  1.0000000000
## [2,] -0.0316614625
## [3,] -0.0657963636
## [4,]  0.0254218662
## [5,] -0.0078449975
## [6,] -0.0106049170
## [7,] -0.0148006161
## [8,]  0.0323683041
## [9,] -0.0036167194
## [10,] -0.0071029841
## [11,]  0.0036460656
## [12,] -0.0470650529
## [13,]  0.0124225728
## [14,] -0.0292344042
## [15,] -0.0243312999
## [16,] -0.0427496969
```

```
## [17,] 0.0620802986
## [18,] 0.0061473042
## [19,] -0.0744147656
## [20,] 0.0568749860
## [21,] 0.0471836320
## [22,] 0.0003109035
## [23,] -0.0006986516
## [24,] -0.0062326764
## [25,] -0.0244831099
## [26,] 0.0430134379
## [27,] 0.0192213377
## [28,] 0.0464068477
## [29,] 0.0197592080
## [30,] -0.0055967072
## [31,] -0.0317808897
## [32,] -0.0189335815
```

```
m2amzn=pacf(logreturn_amzn)
```



```
names(m2amzn)
```

```
## [1] "acf"      "type"     "n.used"  "lag"      "series"  "snames"
```

```
m2amzn$acf
```

```
## , , 1
##
##          [,1]
## [1,] -0.031661462
## [2,] -0.066865841
## [3,]  0.021198224
## [4,] -0.010767266
## [5,] -0.008175617
## [6,] -0.017271554
## [7,]  0.030726846
## [8,] -0.003403192
## [9,] -0.002629988
## [10,] 0.001032256
## [11,] -0.047363651
## [12,] 0.010284023
## [13,] -0.034370971
## [14,] -0.024008840
## [15,] -0.050490587
## [16,] 0.057915450
## [17,] 0.002614565
## [18,] -0.062793034
## [19,] 0.048259706
## [20,] 0.043316077
## [21,] 0.014313942
## [22,] 0.003269419
## [23,] -0.009825781
## [24,] -0.029795895
## [25,] 0.047586551
## [26,] 0.012023445
## [27,] 0.056509305
## [28,] 0.019236094
## [29,] -0.002035994
## [30,] -0.024437113
## [31,] -0.014212519
```

```
Box.test(logreturn_amzn, lag=12,type='Ljung')
```

```
##
## Box-Ljung test
##
## data: logreturn_amzn
## X-squared = 12.488, df = 12, p-value = 0.4073
```

```
#X-squared = 12.488, df = 12, p-value = 0.4073
#we can not reject the null hypothesis that p1=p2=...pm=0 with 95% confidence interval
#the variation of the past can not explain the variation of rt.
```

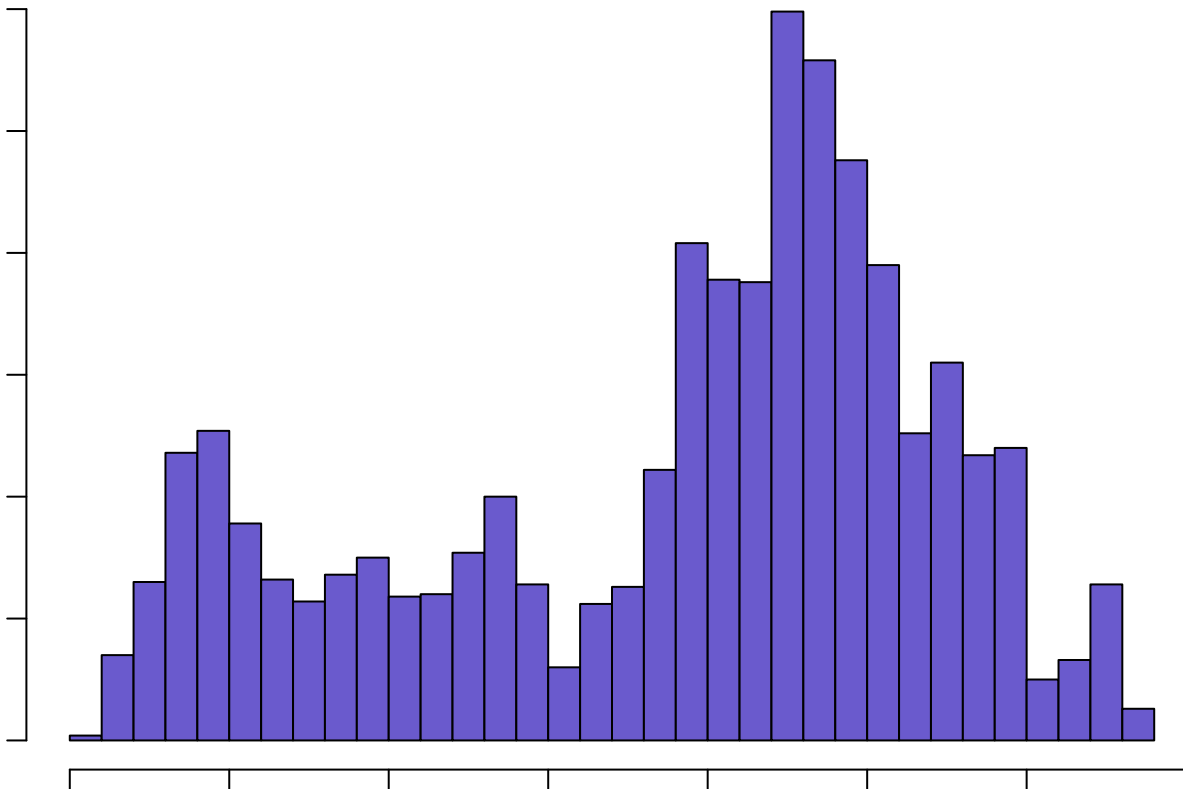
```
da4=read.table("d-exuseu.txt", skip=1)
rates=da4[,4]
logreturn_rates=log(rates)
basicStats(logreturn_rates)
```

```
##          logreturn_rates
## nobs      3567.000000
## NAs       0.000000
## Minimum   -0.189951
## Maximum    0.470628
## 1. Quartile 0.058788
## 3. Quartile 0.296543
## Mean       0.179553
## Median     0.229046
## Sum        640.464627
## SE Mean    0.002746
## LCL Mean   0.174169
## UCL Mean   0.184937
## Variance   0.026899
## Stdev      0.164010
## Skewness   -0.594377
## Kurtosis   -0.726508
```

```
#Minimum      -0.189951
#Maximum      0.470628
#Mean         0.179553
#Stdev        0.164010
#Skewness     -0.594377
#Kurtosis     -0.726508
```

```
par(mfrow=c(1,1))
hist(logreturn_rates, breaks=40, col="slateblue")
```

Histogram of logreturn\_rates



```
t.test(logreturn_rates,method="jb")
```

```
##  
## One Sample t-test  
##  
## data: logreturn_rates  
## t = 65.384, df = 3566, p-value < 2.2e-16  
## alternative hypothesis: true mean is not equal to 0  
## 95 percent confidence interval:  
## 0.1741686 0.1849368  
## sample estimates:  
## mean of x  
## 0.1795527
```

```
#we reject the null hypothesis, which means the mean of the log return is not =0.  
#install.packages('plyr', repos = "http://cran.us.r-project.org")  
#if(!require(weatherData)) install.packages("weatherData",repos = "http://cran.us.r-project.org")
```